Benthic Microalgal Primary Production and Community Respiration at Intertidal Sites in Minas Basin, and Cumberland Basin, Bay of Fundy

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ABSTRACT

Hargrave, B.T., G.A. Phillips, P.A. Neame and N.J. Prouse. 1982. Benthic microalgal primary production and community respiration at intertidal sites in Minas and Cumberland Basins, Bay of Fundy. Can. Data. Rep. of Fish. & Aquat. Sci. 354: 179 p.

This report summarizes the results of a series of *in situ* measurements of oxygen production and consumption over cores incubated in intertidal sediments at two locations in the Bay of Fundy between May 1977 and October 1980. Measures of organic carbon, nitrogen, chlorophyll *a* and phaeopigments in surface sediment on each sampling data are also presented.

RESUME

Hargrave, B.T., G.A. Phillips, P.A. Neame et N.J. Prouse. 1982. Production primaire de micro-algues benthiques et respiration des communautés en des emplacements intertidaux des bassins des Mines et de Cumberland de la baie de Fundy. Can. Data Rep. of Fish. & Aquat. Sci. 354: 179 p.

Ce rapport résume les résultats d'un ensemble de measures de la production et de la consommation d'oxygène dans des carottes incubées dans des sédiments intertidaux en deux emplacements de la baie de Fundy entre mai 1977 et octobre 1980. On présente également des measures du carbone organique, de l'azote, de la chlorophylle *a* et des phaéopigments présents dans les sédiments de surface pour chaque échantillon.

INTRODUCTION

The report presents a chronological listing of observations of changes in dissolved oxygen in water over light and dark cores incubated in intertidal sediments under in situ conditions. The measurements were carried out at two separate locations described below which were chosen as sites for preliminary study of primary production on intertidal sediments in the upper reaches of the Bay of Fundy. These observations between 1977 and 1980 represent the first measurements of rates of benthic primary production in these areas. Although the data have been summarized and interpreted elsewhere (Hargrave et al. 1982), it was thought worthwhile to record the primary data in an organized form. Rate measurements of oxygen production and uptake in light and dark cores are presented along with measures of organic carbon, nitrogen, chlorophyll a and phaeopigments in surface sediments, temperature and incident radiation on each sampling date.

METHODS

Study Sites

Experiments were performed at two locations, Anthony Park (1977-78) and Pecks Cove (1979-80) in Minas and Cumberland Basins at the landward end of the Bay of Fundy. Hargrave et al. (1978) and Gordon et al. (1980) have described physical characteristics of these two areas. A generalize description of the macro-tidal environment in the Bay of Fundy is presented in Gordon and Longhurst (1979).

In Situ Experiments

Changes in dissolved oxygen in water enclosed in plexiglass cores (25.4 cm^2) inserted to a depth of 10 cm in the sediment were measured in situ by methods described in Hargrave et al. (1978). Incubations were always carried out during periods of low tide when intertidal sediments were exposed. Continuous measurements of light during experiments and throughout the day on which experiments were performed provided data to calculate estimates of daily production by benthic microalgae from hourly rates of oxygen change. The calculation necessitates that a linear relationship existed between light and production as described in Hargrave et al. (1982). Oxygen uptake, measured as oxygen consumption in water in darkened cores, did not vary through the day and thus hourly rates were multiplied by 24 to calculate daily rates.

Water temperature in each core was measured before and after incubations which varied from a 0.5 hr during summer up to 3 hr during winter. Temperatures usually increased a few degress during incubations with larger increases (up to 8^{0}C) in light-exposed cores during summer. The average water temperature for all cores is reported for each experiment.

Sedimentary Organic Matter and Plant Pigments

Organic matter and plant pigment analyses were performed by methods described in Hargrave et al. (1978). Samples were taken by scrapping the upper 2 mm of surface sediment after in situ experiments were complete. Results are expressed as $\mu g\ g^{-1}$ dry sediment and $mg\ m^{-2}$ (to 2 mm depth).

Productivity Measurements

Hourly rates of gross oxygen production (changes in dissolved oxygen concentration in light cores added to decreases in dark cores) were calculated from average values derived from three or more light and dark cores incubated simultaneously. The standard deviation (SD) was calculated for each average value of oxygen production and uptake. Specific production was calculated as the ratio of hourly rates of gross oxygen production to chlorophyll a concentration, both expressed on a m^{-2} basis. Photosynthesic quantum yield was calculated by dividing the hourly rate of gross oxygen production by the average hourly incident radiation received during an experiment.

Photosynthetic efficiency was calculated by conversion of production and light measurements to calories. Gross daily oxygen production was converted to calories by multiplying by the factor 4.275. This assumes a photosynthetic quotient of 1.0 with a calorific conversion of 11.4 calories/mg C. Photosynthetically active incident radiation received at the sediment surface during ebb tide as E/m^{-2} was multiplied by 10.4×10^4 for conversion to calories (Parsons _et_ _al_., 1977). This assumes that photosynthetically active radiation (PAR) is 50% of total incident radiation with $1E = 52 \times 10^3$ calories. Tabulated values of incident radiation are expressed as PAR corrected for 86% transmission through plexiglass.

ACKNOWLEDGEMENTS

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PARSONS, T.R., M. TAKAHASKI and B.T. HARGRAVE. 1977. Biological Oceanographic Processes. Pergamon Press, Toronto.

Date: 11/5/77

Station: AP-1

Temperature (°C): 5.5

Daylength (h): 14.3

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 9

During Ebb Tide (0540-0720 0920-1940): 9

During Incubation (1200-1430): 4

Mean h^{-1} during Incubation: 1.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.50	5000	9300
Surface	Nitrogen :	0.076	760	1413
Sediment	Chlorophyll a :		7.8	14.5
	Phaeopigments :		12.5	23.2

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
20.6	4.9	
1.2	7.0	
1.8	5.5	
Mean 7.9	5.8	
SD 11.0	1.1	
SD/Mean 1.40	0.19	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	13.7 (12.1)	72.3 (63.8)
Respiration:	1.1 (0.2)	26.4 (4.8)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 1.0

Quantum Yield (mg O_2 E^{-1}): 7.9

Photosynthetic Efficiency: 0.03

Date: 11/5/77

Station: AP-2

Temperature (°C): 5.5

Daylength (h): 14.3

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 9

During Ebb Tide ($\begin{smallmatrix}0540\text{-}0650\\0950\text{-}1910\end{smallmatrix}$): 9

During Incubation (1200-1430): 4

Mean h^{-1} during Incubation: 1.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.50	5000	9300
Surface	Nitrogen :	0.073	730	1358
Sediment	Chlorophyll a :		5.9	11.6
	Phaeopigments :		10.0	19.7

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	23.8	7.6	
	7.5	7.3	
	11.0	10.5	
Mean	14.1	8.5	
SD	8.6	1.8	
SD/Mean	0.61	0.21	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	22.6 (10.4)	119.6 (55.0)
Respiration:	4.3 (0.9)	103.2 (21.6)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 2.0

Quantum Yield (mg O_2 E^{-1}): 13.0

Photosynthetic Efficiency: 0.06

Date: 11/5/77

Station: AP-3

Temperature (°C): 5.5

Daylength (h): 14.3

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 9

During Ebb Tide (0540-0620
1020-1840): 7

During Incubation (1200-1430): 4

Mean h^{-1} during Incubation: 1.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.63	6300	14112
	Nitrogen :	0.093	930	2083
	Chlorophyll a :		8.5	19.0
	Phaeopigments :		11.5	25.7

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-5.8	31.7	
	-21.7	31.4	
	-30.5	28.1	
Mean	-19.3	30.4	
SD	12.5	2.0	
SD/Mean	0.65	0.065	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	11.1 (14.5)	44.6 (58.3)
Respiration:	15.4 (1.0)	369.6 (24.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.6

Quantum Yield (mg O_2 E^{-1}): 6.9

Photosynthetic Efficiency: 0.03

Date: 23/6/77

Station: AP-1

Temperature (°C): 28.0

Daylength (h): 15.3

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0650-1715 1915-2050): 49

During Incubation (1130-1330): 12

Mean h^{-1} during Incubation: 6.3

Surface Sediment	% dry wt.	ug g^{-1}	mg m^{-2}
Organic Carbon :		-	
Nitrogen :		-	
Chlorophyll *a* :		16.6 (13.7)	30.9 (25.5)
Phaeopigments :		22.5 (21.9)	41.9 (40.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	13.1	34.4	
	49.7	24.8	
	1.4	45.7	
Mean	21.4	35.0	
SD	25.2	8.5	
SD/Mean	1.2	0.2	

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	56.4 (33.7)	438.7 (262.1)
Respiration:	6.6 (1.6)	158.4 (38.4)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$h^{-1}) 1.8

Quantum Yield (mg O_2 E^{-1}): 9.0

Photosynthetic Efficiency: 0.04

Date: 23/6/77

Station: AP-2

Temperature (°C): 28

Daylength (h): 15.3

Height of High Tide (m): 6.4

Radiation ($E\ m^{-2}$):

Daily Total: 55

During Ebb Tide (0720-1640
1940-2050): 46

During Incubation (1155-1340): 12

Mean h^{-1} during Incubation: 6.3

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
	Organic Carbon :		-	
Surface	Nitrogen :		-	
Sediment	Chlorophyll a :		17.5 (6.7)	34.3 (13.1)
	Phaeopigments :		34.3 (13.1)	67.2 (25.7)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	40.7	21.1	
	27.7	54.1	
	38.2	49.2	
Mean	35.5	41.5	
SD	5.6	14.5	
SD/Mean	0.16	0.35	

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	77.0 (20.1)	562.2 (146.8)
Respiration:	20.8 (7.3)	499.2 (174.7)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 2.3

Quantum Yield (mg O_2 E^{-1}): 12.2

Photosynthetic Efficiency: 0.05

Date: 23/6/77

Station: AP-3

Temperature (°C): 28

Daylength (h): 15.3

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0750-1615 2015-2050): 43

During Incubation (1210-1340): 12

Mean h^{-1} during Incubation: 6.3

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :		-	
Surface	Nitrogen :		-	
Sediment	Chlorophyll a :		32.2 (3.8)	72.1 (8.5)
	Phaeopigments :		45.7 (14.7)	102.3 (32.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	24.4	66.4	
	40.2	67.8	
	13.2	67.9	
Mean	25.9	67.4	
SD	11.1	0.7	
SD/Mean	0.4	0.01	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	93.3 (11.8)	636.8 (80.5)
Respiration:	34.1 (0.3)	818.4 (7.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.3

Quantum Yield (mg O_2 E^{-1}): 14.8

Photosynthetic Efficiency: .06

Date: 23/6/77

Station: AP-4

Temperature (°C): 28

Daylength (h): 15.3

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0820-1545
2045-2050): 37

During Incubation (1220-1410): 12

Mean h^{-1} during Incubation: 6.3

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :		-	
Surface	Nitrogen :		-	
Sediment	Chlorophyll a :		11.4 (3.4)	30.7 (9.2)
	Phaeopigments :		19.7 (6.7)	53.1 (18.1)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	9.2	42.6	
	25.0	27.0	
	52.2		
Mean	28.8	34.7	
SD	17.8	7.8	
SD/Mean	0.6	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	63.5 (25.6)	372.9 (150.3)
Respiration:	23.4 (5.1)	561.6 (122.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.1

Quantum Yield (mg O_2 E^{-1}): 10.1

Photosynthetic Efficiency: .04

Date: 25/7/77

Station: AP-1

Temperature (°C): 23

Daylength (h): 15.0

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 28

During Ebb Tide (0535-0655 0855-1940): 23

During Incubation (1045-1235): 7

Mean h^{-1} during Incubation: 3.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	29.1	20.7	
	22.1	23.4	
	32.5	18.9	
Mean	27.9	21.0	
SD	4.3	1.9	
SD/Mean	0.2	0.1	

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	48.9 (6.2)	312.4 (39.6)
Respiration:	3.9 (0.4)	93.6 (9.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) -

Quantum Yield (mg O_2 E^{-1}): 13.6

Photosynthetic Efficiency: 0.06

Date: 25/7/77

Station: AP-2

Temperature (°C): 23

Daylength (h): 15.0

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 28

During Ebb Tide (0535-0625 0925-1910): 22

During Incubation (1110-1250): 7

Mean h^{-1} during Incubation: 3.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	6.3	23.8	
	5.4	21.0	
	2.9	25.2	
Mean	4.9	23.3	
SD	1.4	1.8	
SD/Mean	0.3	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	28.2 (3.2)	172.3 (19.5)
Respiration:	11.7 (0.9)	280.8 (21.6)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 7.8

Photosynthetic Efficiency: 0.03

Date: 25/7/77

Station: AP-3

Temperature (°C): 23

Daylength (h): 15.0

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 8

During Ebb Tide (0535-0555
0955-1840): 20

During Incubation (1140-1320): 7

Mean h^{-1} during Incubation: 3.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	14.6	18.7	
	8.2	28.5	
	0.0	25.1	
Mean	7.6	24.1	
SD	6.0	5.0	
SD/Mean	0.8	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	31.7 (11.0)	176.1 (61.1)
Respiration:	12.2 (2.6)	292.8 (62.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 8.8

Photosynthetic Efficiency: 0.04

Date: 25/7/77
Station: AP-4
Temperature (°C): 23
Daylength (h): 15.0
Height of High Tide (m): 6.8
Radiation (E m^{-2}):
Daily Total: 28
During Ebb Tide (1025-1810): 19
During Incubation (1205-1355): 7
Mean h^{-1} during Incubation: 3.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	40.4	9.9	
	45.9		
Mean	43.2	9.9	
SD	2.8		
SD/Mean	0.1		

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	53.1 (2.8)	280.3 (14.8)
Respiration:	6.7	160.8

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -
Quantum Yield (mg O_2 E^{-1}): 14.8
Photosynthetic Efficiency: 0.06

Date: 24/8/77
Station: AP-1
Temperature (°C): 23.5-28
Daylength (h): 13.7
Height of High Tide (m): 6.8
Radiation ($E\ m^{-2}$):
Daily Total: 30
During Ebb Tide (0610-0800 1000-1950): 23
During Incubation (1125-1315): 7
Mean h^{-1} during Incubation: 3.9

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg $O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	24.8	23.0	
	41.6	24.2	
	38.5	26.8	
Mean	35.0	24.7	
SD	7.3	1.6	
SD/Mean	0.2	0.1	

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	59.7 (8.9)	352.1 (52.5)
Respiration:	4.6 (0.3)	110.4 (7.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -
Quantum Yield (mg $O_2\ E^{-1}$): 15.3
Photosynthetic Efficiency: 0.06

Date: 24/8/77

Station: AP-2

Temperature (°C): 24.5-29

Daylength (h): 13.7

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 30

During Ebb Tide (0610-0730
1030-1920): 21

During Incubation (1145-1330): 7

Mean h^{-1} during Incubation: 3.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	32.1	41.6	
	64.4	39.3	
	16.0	42.1	
Mean	37.5	41.0	
SD	20.1	1.2	
SD/Mean	0.5	0.03	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	78.5 (21.3)	422.7 (114.7)
Respiration:	20.6 (0.6)	494.4 (14.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 20.1

Photosynthetic Efficiency: 0.08

Date: 24/8/77

Station: AP-3

Temperature (°C): 26.5-29

Daylength (h): 13.7

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 30

During Ebb Tide (0610-0700 1100-1850): 19

During Incubation (1230-1415): 7

Mean h^{-1} during Incubation: 3.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	11.0	45.2	
	-0.7	41.5	
	-7.3	33.0	
Mean	1.0	39.9	
SD	7.6	5.1	
SD/Mean	7.6	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	40.9 (12.7)	199.3 (61.9)
Respiration:	20.2 (2.6)	484.8 (62.4)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 10.5

Photosynthetic Efficiency: 0.04

Date: 24/8/77

Station: AP-4

Temperature (°C): 27-29

Daylength (h): 13.7

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 30

During Ebb Tide (0610-0630 1130-1720): 16

During Incubation (1245-1435): 7

Mean h^{-1} during Incubation: 3.9

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	- 4.8	22.8	
	-18.9	30.0	
	21.8	39.7	
Mean	-0.6	31.1	
SD	16.9	6.9	
SD/Mean	281.7	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	30.5 (23.8)	125.1 (97.6)
Respiration:	21.6 (4.6)	518.4 (110.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 7.8

Photosynthetic Efficiency: 0.03

Date: 22/9/77

Station: AP-1

Temperature (°C): 15.2-16.0

Daylength (h): 12.1

Height of High Tide (m): 6.6

Radiation ($E\ m^{-2}$):

Daily Total: 13

During Ebb Tide (0650-0745 0945-1855): 11

During Incubation (1120-1430): 5

Mean h^{-1} during Incubation: 1.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	5.7	21.3	
	30.3	12.7	
	18.8	17.8	
Mean	18.3	17.3	
SD	10.1	3.5	
SD/Mean	0.6	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	35.6 (13.6)	261.1 (99.8)
Respiration:	3.3 (0.7)	79. (16.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 23.7

Photosynthetic Efficiency: 0.1

Date: 22/9/77

Station: AP-2

Temperature (°C): 14.5-15.0

Daylength (h): 12.1

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 13

During Ebb Tide (0650-0715 1015-1855): 11

During Incubation (1140-1450): 4

Mean h^{-1} during Incubation: 1.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-16.1	22.7	
	-26.2	24.0	
	-12.0	24.9	
Mean	- 18.1	23.9	
SD	6.0	0.9	
SD/Mean	0.3	0.04	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	5.8 (6.9)	42.5 (50.6)
Respiration:	12.0 (0.5)	288.0 (12.0)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 3.9

Photosynthetic Efficiency: 0.02

Date: 22/9/77

Station: AP-3

Temperature (°C): 14.2-15.0

Daylength (h): 12.9

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 13

During Ebb Tide (1045-1855): 10

During Incubation (1220-1505): 3

Mean h^{-1} during Incubation: 1.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	0.5	37.1	
	13.0	41.9	
	5.4	36.1	
Mean	6.3	38.4	
SD	5.2	2.5	
SD/Mean	0.8	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	44.7 (7.7)	298.0 (51.3)
Respiration:	19.4 (1.4)	465.6 (33.6)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 29.8

Photosynthetic Efficiency: 0.12

Date: 22/9/77

Station: AP-4

Temperature (°C): 14.0

Daylength (h): 12.9

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 13

During Ebb Tide (1115-1845): 10

During Incubation (1240-1515): 2

Mean h^{-1} during Incubation: 1.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		-	-
	Phaeopigments :		-	-

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	23.9	2.3	
	22.2	5.4	
	39.3	3.0	
Mean	28.5	3.6	
SD	7.7	1.4	
SD/Mean	0.3	0.4	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	32.1 (9.1)	214.0 (60.7)
Respiration:	2.4 (0.9)	57.6 (21.6)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 21.4

Photosynthetic Efficiency: 0.09

Date: 21/10/77

Station: AP-2

Temperature (°C): 8.5-10

Daylength (h): 10.8

Height of High Tide (m): 6.5

Radiation (E m^{-2}):

Daily Total: 2

During Ebb Tide (1005-1805): 2

During Incubation (1130-1400): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		1.8 (0.6)	3.5 (1.2)
	Phaeopigments :		8.4 (1.3)	16.3 (2.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-10.0	17.4	
	-15.4	9.0	
	-13.0	26.5	
Mean	-12.8	17.6	
SD	2.2	7.2	
SD/Mean	0.2	0.4	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	4.8 (9.4)	13.7 (26.8)
Respiration:	8.8 (3.6)	211.2 (86.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.4

Quantum Yield (mg O_2 E^{-1}): 6.9

Photosynthetic Efficiency: 0.03

Date: 21/10/77

Station: AP-1

Temperature (°C): 9.5-11.0

Daylength (h): 10.8

Height of High Tide (m): 6.5

Radiation ($E\ m^{-2}$):

Daily Total: 2

During Ebb Tide (0720-0735 0935-1805): 2

During Incubation (1115-1350): 2

Mean h^{-1} during Incubation:

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		1.7 (0.6)	3.2 (1.1)
	Phaeopigments :		7.8 (1.5)	14.7 (2.8)

mg $O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-17.5	17.4	
	-11.4	13.7	
	- 2.0	9.3	
Mean	-10.3	13.5	
SD	6.4	3.3	
SD/Mean	0.7	0.2	

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	3.2 (9.7)	9.1 (27.6)
Respiration:	2.5 (0.6)	60.0 (14.4)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 1.0

Quantum Yield (mg $O_2\ E^{-1}$): 4.6

Photosynthetic Efficiency: 0.02

Date: 21/10/77
Station: AP-3
Temperature (°C): 8.5-9.5
Daylength (h): 10.8
Height of High Tide (m): 6.5
Radiation (E m^{-2}):
  Daily Total: 2
  During Ebb Tide (1035-1805): 2
  During Incubation (1150-1415):2
  Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll *a* :		2.8 (1.1)	6.3 (2.5)
	Phaeopigments :		8.1 (2.1)	18.2 (4.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	- 2.3	27.6	
	-24.1	29.9	
	-19.0	19.7	
Mean	-15.1	25.7	
SD	9.3	4.4	
SD/Mean	0.6	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	10.6 (13.7)	30.3 (39.2)
Respiration:	13.0 (2.2)	312.0 (52.8)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 1.7
Quantum Yield (mg O_2 E^{-1}): 15.1
Photosynthetic Efficiency: 0.06

Date: 21/10/77
Station: AP-4
Temperature (°C): 8.5-9.2
Daylength (h): 10.8
Height of High Tide (m): 6.5
Radiation ($E\ m^{-2}$):
  Daily Total: 2
  During Ebb Tide (1105-1805): 2
  During Incubation (1225-1430): 2
  Mean h^{-1} during Incubation: 0.7

Surface Sediment	% dry wt.	$\mu g\ g^{-1}$	$mg\ m^{-2}$
Organic Carbon :			
Nitrogen :			
Chlorophyll *a* :		0.6 (0.2)	1.6 (0.5)
Phaeopigments :		2.1 (0.8)	5.6 (2.0)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	5.5	3.4	
	7.6	4.2	
	4.0	5.1	
Mean	5.7	4.2	
SD	1.5	0.7	
SD/Mean	0.3	0.2	

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	9.9 (2.2)	28.3 (6.3)
Respiration:	2.8 (0.5)	67.2 (12)

Specific Production($mg\ O_2\ (mg\ chl\ \underline{a})^{-1}h^{-1}$) 6.2
Quantum Yield ($mg\ O_2\ E^{-1}$): 14.1
Photosynthetic Efficiency: 0.06

Date: 21/11/77

Station: AP-1

Temperature (°C): 3.5-8.5

Daylength (h): 9.3

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 4

During Ebb Tide (0705-0820 1020-1625): 3

During Incubation (1305-1535): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		5.6 (5.1)	10.4 (9.5)
	Phaeopigments :		9.5 (4.9)	17.6 (9.1)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-4.0	17.8	
	1.4	8.0	
	-11.5	13.0	
Mean	-4.7	12.9	
SD	5.3	4.1	
SD/Mean	1.1	0.3	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	8.2 (9.4)	35.1 (40.2)
Respiration:	3.3 (1.1)	79.2 (26.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.8

Quantum Yield (mg O_2 E^{-1}): 11.7

Photosynthetic Efficiency: 0.05

Date: 21/11/77

Station: AP-2

Temperature (°C): 4.3-6.0

Daylength (h): 9.3

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 4

During Ebb Tide (0705-0750 1050-1625): 2

During Incubation (1320-1550): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		3.9 (1.7)	7.6 (3.3)
	Phaeopigments :		9.9 (3.8)	19.3 (7.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	6.0	27.0	
	-1.9	4.2	
	-3.1	23.6	
Mean	-0.3	18.3	
SD	4.0	10.0	
SD/Mean	13.3	0.6	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	18.0 (14.0)	51.4 (40.0)
Respiration:	13.6 (7.4)	326.4 (177.6)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 2.4

Quantum Yield (mg O_2 E^{-1}): 25.7

Photosynthetic Efficiency: 0.11

Date: 21/11/77

Station: AP-3

Temperature (°C): 3.6-5.5

Daylength (h): 9.3

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 4

During Ebb Tide (0705-0720 1120-1625): 2

During Incubation (1340-1615): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		6.9 (3.8)	15.5 (8.5)
	Phaeopigments :		13.3 (6.4)	30.0 (14.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	- 5.7	20.8	
	-16.3	18.3	
	-19.9	19.7	
Mean	-14.0	19.6	
SD	6.0	1.0	
SD/Mean	0.4	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	5.6 (7.0)	16.0 (20.0)
Respiration:	9.9 (0.5)	237.6 (12.0)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.4

Quantum Yield (mg O_2 E^{-1}): 8.0

Photosynthetic Efficiency: 0.03

Date: 21/11/77

Station: AP-4

Temperature (°C): 3.1-5.0

Daylength (h): 9.3

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 4

During Ebb Tide (1150-1625): 2

During Incubation (1355-1625): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :		2.9 (1.3)	7.8 (3.5)
Sediment	Chlorophyll *a* :		3.9 (2.4)	10.5 (6.5)
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-1.0	3.0	
	2.8	2.4	
		3.2	
Mean	0.9	2.9	
SD	2.7	0.4	
SD/Mean	3.0	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	3.8 (3.1)	10.9 (8.9)
Respiration:	2.0 (0.3)	24.0 (7.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 0.5

Quantum Yield (mg O_2 E^{-1}): 5.4

Photosynthetic Efficiency: 0.02

Date: 17/1/78

Station: AP-1

Temperature (°C): -1.2

Daylength (h): 9.2

Height of High Tide (m): 5.8

Radiation (E m^{-2}):

Daily Total: 6

During Ebb Tide (0815-1645): 6

During Incubation (1135-1355):2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		5.6 (1.6)	10.4 (3.0)
	Phaeopigments :		9.2 (1.3)	17.1 (2.4)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
ice prevented insertion of cores		
Mean		
SD		
SD/Mean		

	mg O_2 m^{-2}h^{-1}	(SD)	mg O_2 m^{-2}d^{-1}	(SD)
Gross Oxygen Production:	-	-	-	-
Respiration:	-	-	-	-

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 17/1/78

Station: AP-2

Temperature (°C): -1.2

Daylength (h): 9.2

Height of High Tide (m): 5.8

Radiation (E m^{-2}):

Daily Total: 6

During Ebb Tide (0845-1645): 6

During Incubation (1155-1405): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll _a_ :		4.9 (1.3)	9.6 (2.5)
	Phaeopigments :		11.0 (2.1)	21.6 (4.0)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-10.4	7.6	
	- 5.1	11.6	
	- 8.7	8.1	
Mean	-8.1	9.1	
SD	2.2	1.8	
SD/Mean	0.3	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	1.0 (4.0)	8.6 (34.4)
Respiration:	4.6 (0.9)	110.4(21.6)

Specific Production(mg O_2 (mg chl _a_)$^{-1}$$h^{-1}$) 0.1

Quantum Yield (mg O_2 E^{-1}): 1.4

Photosynthetic Efficiency: 0.01

Date: 17/1/78

Station: AP-3

Temperature (°C): -1.0

Daylength (h): 9.2

Height of High Tide (m): 5.8

Radiation (E m^{-2}):

Daily Total: 6

During Ebb Tide (0915-1645): 6

During Incubation (-): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		3.6 (1.9)	8.1 (4.3)
	Phaeopigments :		7.5 (1.7)	16.9 (3.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	- 0.8	16.6	
	-10.9	11.0	
	- 7.1	7.6	
Mean	-6.0	11.8	
SD	4.2	3.7	
SD/Mean	0.7	0.3	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	5.8 (7.9)	49.7 (67.7)
Respiration:	6.0 (1.9)	144.0 (45.6)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.7

Quantum Yield (mg O_2 E^{-1}): 8.3

Photosynthetic Efficiency: 0.03

Date: 17/1/78

Station: AP-4

Temperature (°C): 1.0

Daylength (h): 9.2

Height of High Tide (m): 5.8

Radiation (E m^{-2}):

Daily Total: 6

During Ebb Tide (0945-1645): 6

During Incubation (-): 2

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		0.9 (0.3)	2.4 (0.8)
	Phaeopigments :		1.3 (0.5)	

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
ice prevented insertion of cores		
Mean		
SD		
SD/Mean		

	mg O_2 $m^{-2}h^{-1}$	(SD)	mg O_2 $m^{-2}d^{-1}$	(SD)
Gross Oxygen Production:	-	-	-	-
Respiration:	-	-	-	-

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 17/4/78

Station: AP-1

Temperature (°C): 15.5

Daylength (h): 13.6

Height of High Tide (m): 5.5

Radiation (E m^{-2}):

Daily Total: 51

During Ebb Tide (0515-0700 0900-1845): 42

During Incubation (1140-1340):10

Mean h^{-1} during Incubation: 5.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		1.3 (0.9)	2.4 (1.7)
	Phaeopigments :		3.7 (1.8)	6.8 (3.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	10.9	21.1	
	11.3	32.2	
	11.5	26.9	
Mean	11.3	26.8	
SD	0.2	4.5	
SD/Mean	0.02	0.2	

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	38.1 (4.7)	307.7 (38.0)
Respiration:	5.0 (0.9)	120.0 (21.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 15.9

Quantum Yield (mg O_2 E^{-1}): 7.3

Photosynthetic Efficiency: 0.03

Date: 17/4/78

Station: AP-2

Temperature (°C): 15.5

Daylength (h): 13.6

Height of High Tide (m): 5.5

Radiation ($E\ m^{-2}$):

Daily Total: 51

During Ebb Tide (0515-0630 0930-1845): 40

During Incubation (1205-1355): 10

Mean h^{-1} during Incubation: 5.2

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		2.5 (1.3)	4.9 (2.5)
	Phaeopigments :		7.4 (2.3)	14.5 (4.4)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	11.0	28.3	
	23.1	23.3	
	52.4	24.0	
Mean	28.8	25.2	
SD	17.4	2.2	
SD/Mean	0.6	0.1	

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	54.0 (19.6)	415.4 (150.8)
Respiration:	12.7 (1.1)	304.8 (26.4)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 11.0

Quantum Yield (mg O_2 E^{-1}): 10.4

Photosynthetic Efficiency: 0.04

Date: 17/4/78

Station: AP-3

Temperature (°C): 14.9

Daylength (h): 13.6

Height of High Tide (m): 5,5

Radiation (E m^{-2}):

Daily Total: 51

During Ebb Tide (0515-0600 1000-1835): 37

During Incubation (1220-1405): 9

Mean h^{-1} during Incubation: 5.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		4.1 (2.1)	9.2 (4.7)
	Phaeopigments :		10.4 (8.2)	23.3 (18.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-12.6	22.9	
	-31.0	22.1	
	10.5	30.1	
Mean	-11.0	26.0	
SD	17.0	5.0	
SD/Mean	1.6	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	15.0 (22.0)	106.7 (156.5)
Respiration:	13.2 (2.5)	316.8 (60.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.6

Quantum Yield (mg O_2 E^{-1}): 2.9

Photosynthetic Efficiency: 0.01

Date: 17/4/78

Station:AP-4

Temperature (°C): 13.5

Daylength (h): 13.6

Height of High Tide (m): 5.5

Radiation (E m^{-2}):

Daily Total: 51

During Ebb Tide (0515-0630 / 1030-1805): 34

During Incubation (1240-1420): 9

Mean h^{-1} during Incubation: 5.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		1.7 (0.7)	4.6 (1.9)
	Phaeopigments :		5.5 (1.2)	14.8 (3.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-34.3	17.0	
	-33.9	18.4	
	-20.5	29.8	
Mean	-29.6	21.7	
SD	6.4	5.7	
SD/Mean	0.2	0.3	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	0	0
Respiration:	14.6 (3.8)	350.4 (91.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0

Quantum Yield (mg O_2 E^{-1}): 0

Photosynthetic Efficiency: -

Date: 11/5/78

Station: AP-1

Temperature (°C): 16-22

Daylength (h): 14.7

Height of High Tide (m): 6.5

Radiation ($E\ m^{-2}$):

Daily Total: 55

During Ebb Tide (0535-1540 / 1740-2015): 47

During Incubation (0850-1125): 14

Mean h^{-1} during Incubation: 5.5

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		5.8 (1.2)	10.8 (2.2)
	Phaeopigments :		10.1 (1.7)	18.8 (3.1)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	62.2	36.1	
	71.4	47.8	
	33.6	44.5	
Mean	55.7	42.8	
SD	16.1	4.9	
SD/Mean	0.3	0.1	

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	98.5 (21.0)	841.7 (179.5)
Respiration:	8.0 (0.9)	192.0 (21.6)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 9.1

Quantum Yield (mg $O_2\ E^{-1}$): 17.9

Photosynthetic Efficiency: 0.07

Date: 11/5/78

Station: AP-2

Temperature (°C): 17.0-22.0

Daylength (h): 14.7

Height of High Tide (m): 6.5

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0545-1510 1810-2015): 43

During Incubation (0905-1135): 14

Mean h^{-1} during Incubation: 5.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		8.5 (2.8)	16.7 (5.5)
	Phaeopigments :		18.4 (3.7)	35.7 (7.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	36.0	61.0	
	54.4	82.3	
	73.4	44.4	
Mean	54.6	62.6	
SD	15.3	15.5	
SD/Mean	0.3	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	117.2 (30.8)	916.3 (240.8)
Respiration:	31.4 (7.5)	753.6 (180.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 7.0

Quantum Yield (mg O_2 E^{-1}): 21.3

Photosynthetic Efficiency: 0.09

Date: 11/5/78

Station: AP-3

Temperature (°C): 16.0-21.0

Daylength (h): 14.7

Height of High Tide (m): 6.5

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0615-1440 1840-2015): 40

During Incubation (0920-1150):14

Mean h^{-1} during Incubation: 5.5

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		11.5 (2.4)	25.8 (5.4)
	Phaeopigments :		19.9 (3.8)	44.7 (8.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	35.0	64.8	
	22.6	60.8	
	-22.4	65.4	
Mean	11.7	63.7	
SD	24.6	1.4	
SD/Mean	2.1	0.02	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	75.4 (26.0)	548.4 (189.1)
Respiration:	32.2 (0.6)	772.8 (14.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.9

Quantum Yield (mg O_2 E^{-1}): 13.7

Photosynthetic Efficiency: 0.06

Date: 12/5/78

Station: AP-3

Temperature (°C): 21.0-26.0

Daylength (h): 14.7

Height of High Tide (m): 6.3

Radiation ($E\ m^{-2}$):

Daily Total: 55

During Ebb Tide (0615-1440 1840-2015): 44

During Incubation (1200-1255): 5

Mean h^{-1} during Incubation: 5.7

		% dry wt.	$\mu g\ g^{-1}$	$mg\ m^{-2}$
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		11.5 (2.4)	25.8 (5.4)
	Phaeopigments :		19.9 (3.8)	44.7 (8.6)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	90.6	53.2	
	68.6	58.5	
	85.4	59.7	
Mean	81.5	57.1	
SD	9.4	3.5	
SD/Mean	0.1	0.1	

	$mg\ O_2\ m^{-2} h^{-1}$ (SD)	$mg\ O_2\ m^{-2} d^{-1}$ (SD)
Gross Oxygen Production:	138.7 (12.9)	1070.7 (99.6)
Respiration:	28.9 (1.7)	693.6 (40.8)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 5.4

Quantum Yield (mg O_2 E^{-1}): 24.3

Photosynthetic Efficiency: 0.1

Date: 12/5/78

Station: AP-4

Temperature (°C): 21.0-26.0

Daylength (h): 14.7

Height of High Tide (m): 6.3

Radiation ($E\ m^{-2}$):

Daily Total: 55

During Ebb Tide (0645-1410 / 1910-2015): 39

During Incubation (1215-1305): 5

Mean h^{-1} during Incubation: 5.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		3.6 (0.6)	9.7 (1.6)
	Phaeopigments :		1.9 (0.3)	5.1 (0.8)

mg $O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	243.4	36.8	
	127.1	14.0	
	185.8		
Mean	185.4	25.4	
SD	47.5	11.4	
SD/Mean	0.3	0.5	

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	210.8 (58.9)	1442.3 (403.0)
Respiration:	17.1 (7.7)	410.4 (184.8)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 21.7

Quantum Yield (mg $O_2\ E^{-1}$): 37.0

Photosynthetic Efficiency: 0.15

Date: 14/6/78

Station: AP-1

Temperature (°C): 24.0-29.0

Daylength (h): 15.6

Height of High Tide (m): 6.2

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0515-0525 / 0725-1750 / 1950-2045): 52

During Incubation (1105-1250): 9

Mean h^{-1} during Incubation: 5.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		1.7 (0.6)	3.2 (1.1)
	Phaeopigments :		4.8 (1.1)	9.0 (2.0)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	17.3	23.5	
	51.3	22.9	
	29.6	37.7	
Mean	32.7	28.0	
SD	14.1	6.8	
SD/Mean	0.4	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	60.7 (20.9)	631.3 (217.4)
Respiration:	5.3 (1.3)	127.2 (31.2)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 19.0

Quantum Yield (mg O_2 E^{-1}): 12.1

Photosynthetic Efficiency: 0.05

Date: 14/6/78

Station: AP-2

Temperature (°C): 25.0-29.0

Daylength (h): 15.6

Height of High Tide (m): 6.2

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0755-1620 2020-2045): 46

During Incubation (1125-1310): 7

Mean h^{-1} during Incubation: 5.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		4.6 (1.6)	9.0 (3.1)
	Phaeopigments :		10.8 (5.7)	21.1 (11.0)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	52.9	51.0	
	9.3	48.9	
	-0.7	69.5	
Mean	21.0	56.5	
SD	23.3	9.3	
SD/Mean	1.1	0.2	

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	77.5 (32.6)	713.0 (299.9)
Respiration:	28.4 (4.5)	681.6 (108.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 8.6

Quantum Yield (mg O_2 E^{-1}): 15.5

Photosynthetic Efficiency: 0.06

Date: 14/6/78
Station: AP-3
Temperature (°C): 23.0-27.0
Daylength (h): 15.6
Height of High Tide (m): 6.2
Radiation (E m^{-2}):
  Daily Total: 55
  During Ebb Tide (0825-1650): 46
  During Incubation (1145-1325): 8
  Mean h^{-1} during Incubation: 5.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		4.1 (2.1)	9.2 (4.7)
	Phaeopigments :		10.4 (8.2)	23.3 (18.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	18.2	90.9	
	-9.6	100.8	
	-44.2	73.1	
Mean	-35.6	88.3	
SD	25.5	11.5	
SD/Mean	0.7	0.1	

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	52.7 (37.0)	484.8 (340.4)
Respiration:	44.7 (5.8)	1072.8 (139.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 5.7
Quantum Yield (mg O_2 E^{-1}): 10.5
Photosynthetic Efficiency: 0.04

Date: 14/6/78

Station: AP-4

Temperature (°C): 24.0-28.0

Daylength (h): 15.6

Height of High Tide (m): 6.2

Radiation (E m^{-2}):

Daily Total: 55

During Ebb Tide (0855-1520): 43

During Incubation (1205-1345): 9

Mean h^{-1} during Incubation: 5.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		5.9 (1.8)	15.9 (4.9)
	Phaeopigments :		7.2 (1.8)	19.4 (4.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	115.5	9.6	
	117.9	28.5	
	113.9	16.5	
Mean	115.8	18.2	
SD	1.6	7.8	
SD/Mean	0.01	0.4	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	134.0 (9.4)	1152.4 (80.8)
Respiration:	12.3 (5.3)	295.2(127.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 8.4

Quantum Yield (mg O_2 E^{-1}): 26.8

Photosynthetic Efficiency: 0.11

Date: 13/7/78

Station: AP-1

Temperature (°C): 25.0 - 31.0

Daylength (h): 15.4

Height of High Tide (m): 6.4

Radiation ($E\ m^{-2}$):

Daily Total: 59

During Ebb Tide (0525-0540
0740-1800
2000-2045): 52

During Incubation (1045-1205): 7

Mean h^{-1} during Incubation: 5.7

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		13.8 (3.0)	25.7 (5.6)
	Phaeopigments :		11.7 (5.5)	21.8 (10.3)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	19.5	14.2	14.0
	19.0	18.5	11.1
	12.9	19.6	
Mean	17.1	17.4	12.6
SD	3.0	2.9	2.1
SD/Mean	0.2	0.2	0.2

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	34.5 (5.9)	314.7 (53.8)
Respiration:	4.8 (5.0)	115.2 (120.0)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$)1.3

Quantum Yield (mg $O_2\ E^{-1}$): 6.1

Photosynthetic Efficiency: 0.03

Date: 13/7/78

Station: AP-2

Temperature (°C): 24.0-30.0

Daylength (h): 15.4

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 59

During Ebb Tide (0810-1730 2030-2045): 51

During Incubation (1105-1220): 7

Mean h^{-1} during Incubation: 5.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		25.2 (5.3)	49.4 (10.4)
	Phaeopigments :		31.6 (7.5)	62.0 (14.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-18.2	15.8	7.0
	7.4	14.3	8.1
	-8.6	40.4	
Mean	-6.5	23.5	7.6
SD	10.5	12.0	0.8
SD/Mean	1.6	0.5	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	17.0 (22.5)	152.1 (201.3)
Respiration:	15.9 (12.8)	381.6 (307.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.0

Quantum Yield (mg O_2 E^{-1}): 3.0

Photosynthetic Efficiency: 0.01

Date: 13/7/78

Station: AP-3

Temperature (°C): 24.0-30.0

Daylength (h): 15.4

Height of High Tide (m): 6.4

Radiation (E m^{-2}):

Daily Total: 59

During Ebb Tide (0840-1700): 48

During Incubation (1125-1235): 7

Mean h^{-1} during Incubation: 5.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		19.1 (2.3)	42.8 (5.2)
	Phaeopigments :		23.6 (5.1)	52.9 (11.5)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-16.4	32.8	19.6
	30.3	22.3	10.8
	16.0	31.3	
Mean	10.0	28.8	15.2
SD	19.5	4.7	4.4
SD/Mean	2.0	0.2	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	38.8 (24.2)	326.7 (203.8)
Respiration:	13.6 (9.1)	326.4 (218.4)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.9

Quantum Yield (mg O_2 E^{-1}): 6.8

Photosynthetic Efficiency: 0.03

Date: 13/7/78
Station: AP-4
Temperature (°C): 23.0-29.0
Daylength (h): 15.4
Height of High Tide (m): 6.4
Radiation (E m^{-2}):
Daily Total: 59
During Ebb Tide (0910-1630): 44
During Incubation (1145-1250):6
Mean h^{-1} during Incubation: 5.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		6.6 (1.6)	17.8 (4.3)
	Phaeopigments :		8.6 (1.2)	23.2 (3.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-26.3	36.5	14.0
	-28.2	54.4	7.5
	-36.2	43.4	
Mean	-30.2	44.8	10.8
SD	5.3	7.4	4.6
SD/Mean	0.2	0.2	0.4

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	14.6 (12.7)	112.7 (98.0)
Respiration:	34.0 (12.0)	816.0 (288.0)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.8
Quantum Yield (mg O_2 E^{-1}): 2.6
Photosynthetic Efficiency: 0.01

Date: 10/8/78

Station: AP-1

Temperature (°C): 25.0-30.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation ($E\ m^{-2}$):

Daily Total: 33

During Ebb Tide (0655-1700 1900-2015): 28

During Incubation (1045-1230): -

Mean h^{-1} during Incubation: -

			% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
	Organic Carbon	:			
Surface	Nitrogen	:			
Sediment	Chlorophyll a	:		16.0 (6.6)	29.8 (12.3)
	Phaeopigments	:		16.5 (4.9)	30.7 (9.1)

$mg\ O_2\ m^{-2}\ h^{-1}$

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
measurements not taken		

Mean			
SD			
SD/Mean			

	$mg\ O_2\ m^{-2}h^{-1}$	(SD)	$mg\ O_2\ m^{-2}d^{-1}$	(SD)
Gross Oxygen Production:	-	-	-	-
Respiration:	-	-	-	-

Specific Production($mg\ O_2\ (mg\ chl\ a)^{-1}h^{-1}$) -

Quantum Yield ($mg\ O_2\ E^{-1}$): -

Photosynthetic Efficiency: -

Date: 10/8/78

Station: AP-2

Temperature (°C): 25.0-30.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0725-1630 1930-2015): 27

During Incubation (1250-1405):

Mean h^{-1} during Incubation:

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		4.1 (4.0)	8.0 (7.8)
	Phaeopigments :		11.0 (13.7)	21.5 (26.7)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
measurements not taken		
Mean		
SD		
SD/Mean		

	mg O_2 $m^{-2}h^{-1}$	(SD)	mg O_2 $m^{-2}d^{-1}$	(SD)
Gross Oxygen Production:	-	-	-	-
Respiration:	-	-	-	-

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 10/8/78

Station: AP-3

Temperature (°C): 25.0-30.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0755-1600 2000-2015): 24

During Incubation (1045-1230): 4

Mean h^{-1} during Incubation: 2.3

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll *a* :		2.2 (1.1)	4.9 (2.5)
	Phaeopigments :		7.3 (5.4)	16.3 (12.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-11.6	-20.3	
	- 7.8	-13.7	
	-13.4	- 9.9	
Mean	-10.9	14.6	
SD	2.9	5.3	
SD/Mean	0.3	0.4	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	3.7 (8.2)	38.6 (85.4)
Respiration:	7.4 (2.7)	177.6 (64.8)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 0.8

Quantum Yield (mg O_2 E^{-1}): 1.6

Photosynthetic Efficiency: 0.01

Date: 10/8/78

Station: AP-3

Temperature (°C): 29.0 - 38.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0755-1600): 24
2000-2015
During Incubation (1245-1400): 7

Mean h^{-1} during Incubation: 6.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		2.2 (1.1)	4.9 (2.5)
	Phaeopigments :		7.3 (5.4)	16.3 (12.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-23.8	41.1	
	-27.4	35.2	
	-18.2	47.8	
Mean	-23.1	41.4	
SD	4.6	6.3	
SD/Mean	0.2	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	18.3 (10.9)	73.2 (43.6
Respiration:	20.9 (3.1)	501.6 (74.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 3.7

Quantum Yield (mg O_2 E^{-1}): 3.1

Photosynthetic Efficiency: 0.01

Date: 10/8/78

Station: AP-3

Temperature (°C): 26.0 - 30.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0755-1600 2000-2015): 24

During Incubation (1435-1550): 7

Mean h^{-1} during Incubation: 6.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		2.2 (1.1)	4.9 (2.5)
	Phaeopigments :		7.3 (5.4)	16.3 (12.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-33.0	52.0	
	-49.3	56.3	
	-39.4	55.8	
Mean	-40.6	54.7	
SD	8.2	2.4	
SD/Mean	0.2	0.04	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	14.1 (10.6)	56.4 (42.4)
Respiration:	27.7 (1.1)	664.8 (26.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.9

Quantum Yield (mg O_2 E^{-1}): 2.4

Photosynthetic Efficiency: 0.01

Date: 10/8/78

Station: AP-3

Temperature (°C): 30.0 - 34.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0755-1600 2000-2015): 24

During Incubation (1100-1300): 6

Mean h^{-1} during Incubation: 2.8

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		2.2 (1.1)	4.9 (2.5)
	Phaeopigments :		7.3 (5.4)	16.3 (12.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-29.6	36.8	
	-25.6	42.0	
	-42.9	49.0	
Mean	-32.7	42.6	
SD	9.1	6.1	
SD/Mean	0.3	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	9.9 (15.2)	84.9 (130.4)
Respiration:	21.5 (3.0)	516.0 (72.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.0

Quantum Yield (mg O_2 E^{-1}): 3.5

Photosynthetic Efficiency: 0.02

Date: 10/8/78

Station: AP-3

Temperature (°C): 30.0 - 34.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0755-1600 2000-2015): 24

During Incubation (1110-1330): 9

Mean h^{-1} during Incubation: 3.9

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		2.2 (1.1)	4.9 (2.5)
	Phaeopigments :		7.3 (5.4)	16.3 (12.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	1.3	12.6	19.9
	-2.7	5.2	11.9
	- 8.2	11.0	9.6
			1.0
			1.9
			3.9
Mean	-3.2	12.6	7.4
SD	4.8	8.3	6.0
SD/Mean	1.5	0.7	0.8

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	9.4 (13.1)	57.9 (80.7)
Respiration:	5.2 (14.3)	124.8 (343.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.9

Quantum Yield (mg O_2 E^{-1}): 2.4

Photosynthetic Efficiency: 0.01

Date: 10/8/78

Station: AP-4

Temperature (°C): 28.0 - 32.0

Daylength (h): 14.4

Height of High Tide (m): 6.6

Radiation (E m^{-2}):

Daily Total: 33

During Ebb Tide (0825-1530): 24

During Incubation (-):

Mean h^{-1} during Incubation:

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		1.4 (0.6)	3.8 (1.6)
	Phaeopigments :		8.1 (3.2)	2.2 (8.5)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
		measurements not taken	
Mean			
SD			
SD/Mean			

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	-	-
Respiration:	-	-
Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$)	-	
Quantum Yield (mg O_2 E^{-1}):	-	
Photosynthetic Efficiency:	-	

Date: 16/8/78

Station: AP-1

Temperature (°C): 26.0 - 31.0

Daylength (h): 14.1

Height of High Tide (m): 7.2

Radiation ($E\ m^{-2}$):

Daily Total: 46

During Ebb Tide (0600-1015): 36

During Incubation (1215-2005 1335-1435): 5

Mean h^{-1} during Incubation: 4.7

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		16.0 (6.6)	29.8 (12.3)
	Phaeopigments :		16.5 (4.9)	30.7 (9.1)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-18.0	17.3	28.8
	-8.4	26.5	20.0
	-9.0	19.0	
Mean	-11.8	20.9	24.4
SD	4.4	4.0	4.4
SD/Mean	0.4	0.2	0.2

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	9.1 (8.4)	69.7 (64.3)
Respiration:	0	0

Specific Production($mg\ O_2\ (mg\ chl\ \underline{a})^{-1}h^{-1}$) 0.3

Quantum Yield ($mg\ O_2\ E^{-1}$): 1.9

Photosynthetic Efficiency: 0.01

Date: 16/8/78

Station: AP-2

Temperature (°C): 25.0 - 30.0

Daylength (h): 14.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 46

During Ebb Tide (0600-0945 1245-2005): 31

During Incubation (1400-1510): 5

Mean h^{-1} during Incubation: 4.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		4.1 (4.0)	8.0 (7.8)
	Phaeopigments :		11.0 (13.7)	21.5 (26.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-47.5	40.0	26.2
	-46.9	25.2	21.6
	-26.4	40.8	
Mean	40.3	35.6	23.9
SD	9.8	7.2	2.3
SD/Mean	0.2	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	75.9 (17.0)	500.6 (112.1)
Respiration:	11.7 (9.5)	280.8 (228.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 9.5

Quantum Yield (mg O_2 E^{-1}): 16.2

Photosynthetic Efficiency: 0.07

Date: 16/8/78

Station: AP-3

Temperature (°C): 25.0 - 29.0

Daylength (h): 14.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 46

During Ebb Tide (0600-0915 1315-2005): 26

During Incubation (1420-1520): 5

Mean h^{-1} during Incubation: 4.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		2.2 (1.1)	4.9 (2.5)
	Phaeopigments :		7.3 (5.4)	16.3 (12.3)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production		Total Oxygen Uptake	Chemical Oxygen Uptake
-23.1		29.9	10.3
-21.0		21.0	2.5
-12.4			
Mean	-18.8	25.9	6.4
SD	4.6	3.7	3.9
SD/Mean	0.2	0.1	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	7.1 (8.3)	39.3 (45.9)
Respiration:	19.5 (7.6)	468.0 (182.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 1.5

Quantum Yield (mg O_2 E^{-1}): 1.5

Photosynthetic Efficiency: 0.03

Date: 16/8/78

Station: AP-4

Temperature (°C): -

Daylength (h): 14.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 46

During Ebb Tide (0600-0845 1445-2005): 23

During Incubation (1455-1555): 5

Mean h^{-1} during Incubation: 4.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		1.4 (0.6)	3.8 (1.6)
	Phaeopigments :		8.1 (3.2)	22.0 (8.5)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-57.0	50.4	3.2
	-51.0	50.4	4.8
Mean	-54.0	50.4	4.0
SD	3.0	0	1.1
SD/Mean	0.1	-	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	0	0
Respiration:	46.4 (1.1)	1113.6 (26.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0

Quantum Yield (mg O_2 E^{-1}): 0

Photosynthetic Efficiency: -

Date: 20/9/78

Station: AP-1

Temperature (°C): 15.0 - 19.0

Daylength (h): 12.3

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 43

During Ebb Tide ($\begin{matrix}0645\text{-}1515\\1715\text{-}2005\end{matrix}$): 36

During Incubation (1055-1220): 5

Mean h^{-1} during Incubation: 4.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		6.0 (2.4)	11.2 (4.5)
	Phaeopigments :		8.2 (2.6)	15.3 (4.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	12.8	17.0	17.9
	10.3	12.3	11.6
	3.5	5.0	
Mean	7.9	11.4	14.8
SD	4.8	6.0	4.5
SD/Mean	0.5	0.5	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	20.3 (10.8)	158.9 (84.5)
Respiration:	0	0

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.8

Quantum Yield (mg O_2 E^{-1}): 4.4

Photosynthetic Efficiency: 0.2

Date: 20/9/78

Station: AP-2

Temperature (°C): 16.0 - 21.0

Daylength (h): 12.3

Height of High Tide (m): 6.8

Radiation ($E\ m^{-2}$):

Daily Total: 43

During Ebb Tide (0645-1445 1745-2005): 33

During Incubation (1025-1200): 6

Mean h^{-1} during Incubation: 4.5

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		5.8 (0.8)	11.4 (1.6)
	Phaeopigments :		7.3 (0.9)	14.4 (1.8)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	37.0	17.2	8.8
	40.7	26.9	12.9
	47.5	13.6	
Mean	41.7	19.2	10.9
SD	4.4	5.6	2.1
SD/Mean	0.1	0.3	0.2

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	60.9 (10.0)	446.6 (73.3)
Respiration:	8.3 (7.7)	199.2 (184.8)
Specific Production($mg\ O_2\ (mg\ chl\ a)^{-1}h^{-1}$)	5.3	

Quantum Yield ($mg\ O_2\ E^{-1}$): 13.5

Photosynthetic Efficiency: 0.06

Date: 20/9/78

Station: AP-3

Temperature (°C): 15.0 - 21.0

Daylength (h): 12.3

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 43

During Ebb Tide (0645-1415 1815-2005): 32

During Incubation (1000-1140): 6

Mean h^{-1} during Incubation: 4.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		3.5 (0.5)	7.8 (1.1)
	Phaeopigments :		5.2 (1.9)	11.6 (4.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	19.2	15.6	14.1
	46.1	32.7	16.3
	25.9	27.2	
Mean	30.4	25.2	15.2
SD	11.5	7.1	1.1
SD/Mean	0.4	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	55.6 (18.6)	444.8 (148.8)
Respiration:	10.0 (8.2)	240.0 (196.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 7.1

Quantum Yield (mg O_2 E^{-1}): 13.9

Photosynthetic Efficiency: 0.06

Date: 20/9/78

Station: AP-4

Temperature (°C): 15.0-19.0

Daylength (h): 12.3

Height of High Tide (m): 6.8

Radiation (E m^{-2}):

Daily Total: 43

During Ebb Tide (0645-1345 1845-2005): 27

During Incubation (0935-1120): 6

Mean h^{-1} during Incubation: 3.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		2.6 (0.4)	7.0 (1.1)
	Phaeopigments :		4.0 (0.5)	10.8(1.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	13.6	12.1	10.8
	35.9	13.5	6.4
	30.2	16.9	
Mean	26.6	14.2	8.6
SD	11.6	2.0	2.2
SD/Mean	0.4	0.1	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	40.8 (13.6)	344.3 (114.8)
Respiration:	5.6 (4.2)	134.4 (100.8)
Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$)	5.8	

Quantum Yield (mg O_2 E^{-1}): 12.8

Photosynthetic Efficiency: 0.05

Date: 20/10/78

Station: AP-1

Temperature (°C): 10.0-11.0

Daylength (h): 10.8

Height of High Tide (m): 6.5

Radiation (E m^{-2}):

Daily Total: 15

During Ebb Tide (0720-1515
1715-1805): 11

During Incubation (0935-1130): 4

Mean h^{-1} during Incubation: 1.8

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		2.5 (0.7)	4.7 (1.3)
	Phaeopigments :		7.8 (1.5)	14.7 (2.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-5.6	17.T	9.7
	-6.3	15.8	7.9
	-8.0	13.4	
Mean	-6.7	16.6	8.8
SD	1.0	1.5	0.9
SD/Mean	0.2	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	9.9 (2.5)	60.5 (15.3)
Respiration:	7.8 (2.4)	187.2 (57.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.1

Quantum Yield (mg O_2 E^{-1}): 5.5

Photosynthetic Efficiency: 0.02

Date: 20/10/78
Station: AP-2
Temperature (°C): 11.0-12.0
Daylength (h): 10.8
Height of High Tide (m): 6.5
Radiation (E m^{-2}):
Daily Total: 15
During Ebb Tide (0720-1445
1745-1805): 9
During Incubation (0955-1150): 4
Mean h^{-1} during Incubation: 1.8

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		5.8 (0.8)	11.4 (1.6)
	Phaeopigments :		7.3 (0.9)	14.3 (1.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-0.9	24.6	8.5
	-1.7	17.8	8.5
	-2.1	16.8	
Mean	-1.6	19.7	8.5
SD	0.6	4.2	0
SD/Mean	0.4	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	18.1 (4.8)	90.5 (24.0)
Respiration:	11.2 (28.8)	268.8 (091.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.6
Quantum Yield (mg O_2 E^{-1}): 10.1
Photosynthetic Efficiency: 0.04

Date: 20/10/78

Station: AP-3

Temperature (°C): 11.0-14.0

Daylength (h): 10.8

Height of High Tide (m): 6.5

Radiation ($E\ m^{-2}$):

Daily Total: 15

During Ebb Tide (0720-1415): 8

During Incubation (1020-1215): 4

Mean h^{-1} during Incubation: 2.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		1.9 (0.6)	4.3 (1.4)
	Phaeopigments :		6.4 (2.2)	14.5 (5.1)

mg $O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-0.7	15.7	5.5
	-1.5	16.0	6.2
	9.8	11.0	
Mean	2.5	14.3	5.9
SD	5.1	2.3	0.4
SD/Mean	2.0	0.2	0.1

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	16.8 (7.4)	67.2 (29.6)
Respiration:	8.4 (2.7)	201.6 (64.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 3.9

Quantum Yield (mg $O_2\ E^{-1}$): 8.4

Photosynthetic Efficiency: 0.3

Date: 20/10/78

Station: AP-4

Temperature (°C): 10.0-11.0

Daylength (h): 10.8

Height of High Tide (m): 6.5

Radiation (E m^{-2}):

Daily Total: 15

During Ebb Tide (0720-1345): 7

During Incubation (1040-1235): 4

Mean h^{-1} during Incubation:

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		1.0 (0.4)	2.7 (1.1)
	Phaeopigments :		4.7 (1.0)	12.7 (2.8)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
8.5	15.3	6.5
-4.6	9.6	5.3
-0.6	16.4	
Mean 1.1	13.8	5.9
SD 6.7	3.7	0.8
SD/Mean 6.1	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	14.9 (10.4)	52.2 (36.4)
Respiration:	7.9 (4.5)	189.6 (108.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 5.5

Quantum Yield (mg O_2 E^{-1}): 7.5

Photosynthetic Efficiency: 0.3

Date: 20/4/79

Station: PC-A

Temperature (°C): 2.0-6.0

Daylength (h): 13.7

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 19

During Ebb Tide (0745-1615): 16

During Incubation (0830-1130): 6

Mean h^{-1} during Incubation: 2.1

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.952	9520	18,469
Surface	Nitrogen :	0.175	1750	3,395
Sediment	Chlorophyll a :		28.3 (7.3)	54.9 (14.2)
	Phaeopigments :		13.1 (2.4)	25.4 (4.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	34.6	11.4	6.9
	27.3	22.1	9.2
	30.8	17.3	8.4
	10.7	15.5	8.7
	-10.4	14.5	10.2
	- 9.6	14.5	9.4
Mean	13.9	15.9	8.8
SD	20.2	3.6	1.1
SD/Mean	1.5	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	29.8 (23.8)	227.1 (181.4)
Respiration:	7.1 (4.7)	170.4 (112.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.5

Quantum Yield (mg O_2 E^{-1}): 14.2

Photosynthetic Efficiency: 0.06

Date: 20/4/79

Station: PC-A

Temperature (°C): 2.0-6.0

Daylength (h): 13.7

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 19

During Ebb Tide (0745-1615): 16

During Incubation (1245-1445): 3

Mean h^{-1} during Incubation: 1.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.952	9520	18,469
	Nitrogen :	0.175	1750	3,395
	Chlorophyll a :		28.3 (7.3)	54.9 (14.2)
	Phaeopigments :		13.1 (2.4)	25.4 (4.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	28.4	6.5	5.7
	53.3	9.1	9.2
	42.0	11.4	8.2
	49.0	10.7	7.9
	32.7	9.9	9.1
	1.5	8.8	8.5
Mean	34.5	9.4	8.1
SD	18.7	1.7	1.3
SD/Mean	0.5	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	43.9 (20.4)	439.0 (204.0)
Respiration:	1.3 (3.0)	31.2 (72.0)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.8

Quantum Yield (mg O_2 E^{-1}): 27.4

Photosynthetic Efficiency: 0.11

Date: 27/4/79

Station: PC-A

Temperature (°C): 9.0-18.0

Daylength (h): 14.6

Height of High Tide (m): 8.0

Radiation (E m^{-2}):

Daily Total: 29

During Ebb Tide (0745-1615): 18

During Incubation (1000-1450): 12

Mean h^{-1} during Incubation: 2.4

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	1.010	10,100	19,594
	Nitrogen :	0.143	1,430	2,774
	Chlorophyll a :		19.3 (6.5)	37.4 (12.6)
	Phaeopigments :		22.5 (3.6)	43.7 (6.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	0.6	10.0	4.6
	0.4	9.1	3.9
	2.9		
	1.1		
Mean	1.2	9.6	4.2
SD	1.2	0.7	0.5
SD/Mean	1.0	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	10.8 (1.9)	78.8 (13.9)
Respiration:	5.4 (1.2)	129.6 (28.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$): 0.3

Quantum Yield (mg O_2 E^{-1}): 4.5

Photosynthetic Efficiency: 0.02

Date: 18/5/79
Station: PC-A
Temperature (°C): 22.0-30.0
Daylength (h): 14.9
Height of High Tide (m): 7.8
Radiation (E m^{-2}):
Daily Total: 53
During Ebb Tide (0725-1555
1955-2025): 40
During Incubation (1230-1345): 7
Mean h^{-1} during Incubation: 5.8

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.932	9,320	18,081
Surface	Nitrogen :	0.135	1,350	2,619
Sediment	Chlorophyll *a* :		26.7 (7.6)	51.8 (14.7)
	Phaeopigments :		15.4 (2.8)	29.9 (5.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	3.8	32.7	31.6
	29.5	42.5	36.2
	33.4	47.5	45.6
	32.5	44.0	53.9
	16.2	40.8	51.0
	49.2	52.7	49.4
Mean	27.4	43.4	13.7
SD	15.7	6.7	8.9
SD/Mean	0.6	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	70.8 (22.4)	488.3 (154.5)
Respiration:	29.7 (15.6)	712.3 (374.4)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 1.4
Quantum Yield (mg O_2 E^{-1}): 12.2
Photosynthetic Efficiency: 0.05

Date: 25/5/79

Station: PC-A

Temperature (°C): 10.0

Daylength (h): 15.2

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 7

During Ebb Tide (0520-1025 1425-2035): 3

During Incubation (1030-1440): 4

Mean h^{-1} during Incubation: 1.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.823	8,230	15,966
	Nitrogen :	0.121	1,210	2,347
	Chlorophyll a :		12.0 (3.2)	23.4 (6.2)
	Phaeopigments :		15.7 (1.5)	30.5 (2.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-7.4	17.1	1.3
	-9.2	7.9	1.4
	-7.2		3.0
			1.9
			4.2
Mean	-7.9	12.5	2.4
SD	1.1	6.5	1.2
SD/Mean	0.1	0.5	0.5

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	4.6 (7.6)	13.8 (22.8)
Respiration:	10.1 (7.7)	242.4 (184.8)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.2

Quantum Yield (mg O_2 E^{-1}): 4.6

Photosynthetic Efficiency: 0.02

Date: 1/6/79

Station: PC-A

Temperature (°C): 12.0-13.0

Daylength (h): 15.4

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total: 17

During Ebb Tide (0720-1555 1955-2040): 13

During Incubation (1130-1345): 4

Mean h^{-1} during Incubation: 1.8

		% dry wt.	$ug\ g^{-1}$	$mg\ m^{-2}$
Surface Sediment	Organic Carbon :	0.672	6,720	13,037
	Nitrogen :	0.112	1,120	2,173
	Chlorophyll *a* :		14.1 (3.7)	27.4 (7.2)
	Phaeopigments :		15.5 (3.6)	30.1 (7.0)

$mg\ O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	21.3	16.7	8.7
	34.2	14.7	10.0
	27.4	15.5	9.1
	26.9	14.0	
	27.1	13.6	
	37.1	14.6	
	21.6		
	29.0		
	26.0		
Mean	27.9	14.6	9.3
SD	5.2	1.1	0.6
SD/Mean	0.2	0.1	0.1

	$mg\ O_2\ m^{-2}h^{-1}$ (SD)	$mg\ O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	42.5 (6.3)	306.9 (45.5)
Respiration:	5.3 (1.7)	127.2 (40.8)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 1.6

Quantum Yield (mg O_2 E^{-1}): 23.6

Photosynthetic Efficiency: 0.10

Date: 11/6/79

Station: PC-A

Temperature (°C): 14.0-22.0

Daylength (h): 15.6

Height of High Tide (m): 8.1

Radiation (E m^{-2}):

Daily Total: 41

During Ebb Tide (0515-1115 1515-2045): 18

During Incubation (1120-1545): 24

Mean h^{-1} during Incubation: 5.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.821	8,210	15,927
Surface	Nitrogen :	0.120	1,200	2,328
Sediment	Chlorophyll a :		46.4 (12.6)	90.0 (24.4)
	Phaeopigments :		13.5 (3.3)	26.2 (6.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	5.6	3.6	3.6
	4.7	4.2	1.4
	3.1	8.1	0.9
	-5.9	3.7	1.4
	5.2	3.5	0.5
	1.6	3.9	0.5
Mean	2.4	4.3	1.4
SD	4.3	1.9	1.2
SD/Mean	1.8	0.4	0.9

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	6.7 (6.2)	22.3 (20.6)
Respiration:	2.9 (3.1)	69.6 (74.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.1

Quantum Yield (mg O_2 E^{-1}): 1.2

Photosynthetic Efficiency: 0.01

Date: 18/6/79

Station: PC-A

Temperature (°C): 15.0-21.0

Daylength (h): 15.6

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 10

During Ebb Tide (0915-1755): 10

During Incubation (1300-1450): 2

Mean h^{-1} during Incubation: 1.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.891	8,910	17,285
Surface	Nitrogen :	0.132	1,320	2,560
Sediment	Chlorophyll a :		39.4 (11.3)	76.4 (21.9)
	Phaeopigments :		10.0 (5.0)	19.4 (9.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	45.6	10.5	6.5
	53.3	14.8	5.9
	68.1	14.6	8.1
	64.4	16.5	6.4
	62.8	18.8	6.7
	55.5	18.6	6.2
Mean	58.3	15.6	6.6
SD	8.3	3.1	0.8
SD/Mean	0.1	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	73.9 (11.4)	739.0 (114.0)
Respiration:	9.0 (3.9)	216.0 (93.6)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.0

Quantum Yield (mg O_2 E^{-1}): 73.9

Photosynthetic Efficiency: 0.3

Date: 25/6/79

Station:PC-A

Temperature (°C): 12.0-14.0

Daylength (h): 15.6

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 29

During Ebb Tide (0515-1140 1540-2050): 12

During Incubation (1110-1550): 17

Mean h^{-1} during Incubation: 3.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.603	6,030	11,698
	Nitrogen :	0.113	1,130	2,192
	Chlorophyll a :		16.9 (7.3)	32.8 (14.2)
	Phaeopigments :		10.1 (3.4)	19.6 (6.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	- 7.6	19.2	11.3
	-12.4	17.4	10.6
	-12.3	27.2	9.4
	-11.8	19.2	11.0
	-10.8	17.8	10.5
	-18.8	26.7	10.4
Mean	-12.3	21.2	10.5
SD	3.7	4.5	0.6
SD/Mean	0.3	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	8.9 (8.2)	28.9 (26.6)
Respiration:	10.7 (5.1)	256.8 (122.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.3

Quantum Yield (mg O_2 E^{-1}): 2.4

Photosynthetic Efficiency: 0.01

Date: 2/7/79

Station: PC-A

Temperature (°C): 19.0-24.0

Daylength (h): 15.6

Height of High Tide (m): 5.7

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0810-1635 2035-2050): 41

During Incubation (1255-1445): 9

Mean h^{-1} during Incubation: 4.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.232	12,320	23,900
Surface	Nitrogen :	0.187	1,870	3,627
Sediment	Chlorophyll a :		48.2 (6.3)	93.5 (12.2)
	Phaeopigments :		16.4 (3.5)	31.8 (6.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	75.8	30.6	24.2
	85.3	50.8	26.4
	67.9	32.7	29.8
	76.1	37.1	30.4
	72.1	36.2	27.6
	67.7	37.8	19.9
Mean	74.1	37.5	26.4
SD	6.6	7.1	3.9
SD/Mean	0.1	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	111.6 (13.7)	1,039.9 (127.7)
Respiration:	11.1 (11.0)	266.4 (264.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.2

Quantum Yield (mg O_2 E^{-1}): 25.4

Photosynthetic Efficiency: 0.1

Date: 9/7/79

Station: PC-A

Temperature (°C): 16.0-18.0

Daylength (h): 15.4

Height of High Tide (m): 7.9

Radiation (E m^{-2}):

Daily Total: 53

During Ebb Tide (0525-1010
1410-2045): 30

During Incubation (1030-1435): 23

Mean h^{-1} during Incubation: 5.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.944	9,440	18,313
Surface	Nitrogen :	0.095	950	1,843
Sediment	Chlorophyll a :		34.2 (13.1)	66.3 (25.4)
	Phaeopigments :		21.6 (5.0)	41.9 (9.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-7.1	4.3	3.1
	-4.5	9.8	2.8
	-12.8	9.3	3.0
	-3.3	8.9	3.5
	-1.8	6.5	4.9
	-5.6	9.4	5.3
Mean	-5.8	8.1	3.8
SD	3.9	2.2	1.1
SD/Mean	0.7	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	2.3 (6.1)	12.6 (33.4)
Respiration:	4.3 (3.3)	103.2 (79.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.04

Quantum Yield (mg O_2 E^{-1}):0.4

Photosynthetic Efficiency:0.002

Date: 16/7/79

Station: PC-A

Temperature (°C): 20.00-24.0

Daylength (h): 15.3

Height of High Tide (m): 7.6

Radiation (E m^{-2}):

Daily Total: 21

During Ebb Tide (0745-1625
2025-2045): 18

During Incubation (1135-1250): 4

Mean h^{-1} during Incubation: 3.3

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.878	8,780	17,033
	Nitrogen :	0.090	900	1,746
	Chlorophyll a :		51.6 (13.8)	100.1 (26.8)
	Phaeopigments :		15.6 (3.1)	30.3 (6.0)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	57.1	44.4	17.3
	62.5	48.1	18.0
	99.0	44.8	19.0
	81.3	27.1	11.9
	77.9	35.6	13.1
	80.0	32.2	15.0
Mean	76.3	38.7	15.7
SD	14.9	8.3	2.8
SD/Mean	0.2	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	115.0 (23.2)	627.3 (126.6)
Respiration:	23.0 (11.1)	552.0 (266.4)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.2

Quantum Yield (mg O_2 E^{-1}): 34.9

Photosynthetic Efficiency: 0.1

Date: 23/7/79

Station: PC-A

Temperature (°C): 19.0-26.0

Daylength (h): 15.1

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total: 40

During Ebb Tide (0535-1045 1445-2040): 20

During Incubation (1130-1520): 19

Mean h^{-1} during Incubation: 4.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.766	7,660	14,860
Surface	Nitrogen :	0.075	750	1,455
Sediment	Chlorophyll a :		41.8 (12.1)	81.1 (23.5)
	Phaeopigments :		15.0 (3.2)	29.1 (6.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-19.9	29.5	10.1
	-19.7	29.8	9.1
	-20.3	27.2	10.0
	-27.7	33.3	11.6
	-17.7	32.8	11.7
	-18.4	35.6	9.6
Mean	-20.6	31.4	10.3
SD	3.6	3.1	1.1
SD/Mean	0.2	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	10.8 (6.7)	44.1 (27.4)
Respiration:	21.1 (4.2)	506.4 (100.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.1

Quantum Yield (mg O_2 E^{-1}): 2.2

Photosynthetic Efficiency: 0.01

Date: 1/8/79

Station: PC-A

Temperature (°C): 19.0-20.0

Daylength (h): 14.8

Height of High Tide (m): 6.9

Radiation (E m^{-2}):

Daily Total: 2

During Ebb Tide (0815-1635): 2

During Incubation (1205-1350): 1

Mean h^{-1} during Incubation: 0.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.666	6,660	12,920
	Nitrogen :	0.061	610	1,183
	Chlorophyll a :		8.7 (2.1)	16.9 (4.0)
	Phaeopigments :		7.3 (1.9)	14.2 (3.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-10.2	18.0	8.9
	-22.7	11.9	7.5
	- 8.4	19.0	9.3
	-25.7	20.5	10.0
	-20.3	22.1	7.4
	-15.9	23.2	5.2
Mean	-17.2	19.1	8.0
SD	6.9	4.0	1.8
SD/Mean	0.4	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	1.9 (10.9)	6.3 (36.1)
Respiration:	11.0 (5.8)	266.4 (139.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.1

Quantum Yield (mg O_2 E^{-1}): 3.2

Photosynthetic Efficiency: 0.01

Date: 8/8/79

Station: PC-A

Temperature (°C): 15.0-18.0

Daylength (h): 14.4

Height of High Tide (m): 8.1

Radiation (E m^{-2}):

Daily Total: 12

During Ebb Tide (0555-1035
1435-2015): 5

During Incubation (1050-1510): 7

Mean h^{-1} during Incubation: 1.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.590	5,900	11,446
Surface	Nitrogen :	0.122	1,220	2,367
Sediment	Chlorophyll a :		20.8 (7.6)	40.4 (14.8)
	Phaeopigments :		10.1 (2.1)	19.6 (4.1)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-25.5	20.0	8.6
	-15.8	20.8	7.2
	-18.0	21.1	7.4
	-20.8	23.8	9.6
	-17.5	22.2	9.6
	-19.2	17.5	7.4
Mean	-19.4	20.9	8.3
SD	3.5	2.1	1.1
SD/Mean	0.2	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	1.5 (5.6)	4.7 (17.5)
Respiration:	12.6 (3.2)	302.4 (76.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.04

Quantum Yield (mg O_2 E^{-1}): 0.9

Photosynthetic Efficiency: 0.004

Date: 15/8/79

Station: PC-A

Temperature (°C): 22.0-23.0

Daylength (h): 14.2

Height of High Tide (m): 7.1

Radiation (E m^{-2}):

Daily Total: 32

During Ebb Tide (0845-1700): 30

During Incubation (1130-1230): 7

Mean h^{-1} during Incubation: 6.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.690	6,900	13,386
Surface	Nitrogen :	0.107	1,070	2,075
Sediment	Chlorophyll *a* :		35.9 (10.0)	69.6 (19.4)
	Phaeopigments :		9.5 (6.1)	18.4 (11.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	154.4	12.6	0
	135.7	16.8	3.0
	167.4	28.9	10.9
	232.9	20.0	
	216.0	38.7	
	192.9	29.1	
Mean	183.2	24.4	4.3
SD	37.4	9.7	6.7
SD/Mean	0.2	0.4	1.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	207.6 (47.1)	902.6 (204.8)
Respiration:	20.1	482.4 (393.6)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$h^{-1}) 3.0

Quantum Yield (mg O_2 E^{-1}): 30.1

Photosynthetic Efficiency: 0.12

Date: 22/8/79

Station: PC-A

Temperature (°C): 19.0-22.0

Daylength (h): 13.8

Height of High Tide (m): 7.4

Radiation (E m^{-2}):

Daily Total: 44

During Ebb Tide (0610-1100 1500-2000): 22

During Incubation (1050-1500):22

Mean h^{-1} during Incubation: 5.3

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.940	9,400	18,236
	Nitrogen :	0.150	1,500	2,910
	Chlorophyll _a_ :		66.7 (16.4)	129.4 (31.8)
	Phaeopigments :		6.4 (8.0)	12.4 (15.5)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	19.5	26.4	11.3
	16.3	26.8	11.8
	12.7	31.6	11.2
	17.1	28.3	12.6
	8.9	29.1	12.5
	13.4	29.6	13.4
Mean	14.7	28.6	12.1
SD	3.8	1.9	0.9
SD/Mean	0.3	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	43.3 (5.7)	179.7 (23.7)
Respiration:	16.5 (2.8)	396.0 (67.2)

Specific Production(mg O_2 (mg chl _a_)$^{-1}$$h^{-1}$) 0.3

Quantum Yield (mg O_2 E^{-1}): 8.2

Photosynthetic Efficiency: 0.03

Date: 30/8/79

Station: PC-A

Temperature (°C): 18.0-20.0

Daylength (h): 13.4

Height of High Tide (m): 7.0

Radiation (E m^{-2}):

Daily Total: 16

During Ebb Tide (0740-1600): 11

During Incubation (1300-1500): 5

Mean h^{-1} during Incubation: 2.3

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.272	12,720	24,677
Surface	Nitrogen :	0.198	1,980	3,841
Sediment	Chlorophyll a :		85.8 (12.5)	166.5 (24.3)
	Phaeopigments :		13.1 (5.7)	25.4 (11.1)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	93.0	38.0	14.6
	104.4	39.0	13.5
	111.1	38.5	14.3
	102.5	33.0	8.5
	65.8	32.1	14.7
	78.8	34.9	12.6
Mean	92.6	35.9	13.0
SD	17.2	3.0	2.3
SD/Mean	0.2	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	128.5 (20.2)	614.6 (96.6)
Respiration:	22.9 (5.3)	549.6 (127.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.8

Quantum Yield (mg O_2 E^{-1}): 55.9

Photosynthetic Efficiency: 0.23

Date: 6/9/79

Station: PC-A

Temperature (°C): 17.0-21.0

Daylength (h): 13.1

Height of High Tide (m): 8.2

Radiation (E m^{-2}):

Daily Total: 12

During Ebb Tide (0625-1025
1425-1930): 4

During Incubation (1020-1500): 7

Mean h^{-1} during Incubation: 1.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	1.163	11,630	22,562
	Nitrogen :			
	Chlorophyll a :		137.6 (12.5)	266.9 (24.2)
	Phaeopigments :		28.3 (14.0)	54.9 (27.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-11.6	18.5	
	- 9.3	23.3	
	-10.7	17.8	
	- 9.8	14.3	
	-12.5	14.3	
		16.9	
Mean	-10.8	17.5	(8.75)
SD	1.3	3.3	
SD/Mean	0.1	0.2	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	6.7 (4.6)	16.8 (11.5)
Respiration:	8.8	211.2

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.03

Quantum Yield (mg O_2 E^{-1}): 4.2

Photosynthetic Efficiency: 0.02

Date: 13/9/79

Station: PC-A

Temperature (°C): 23.0-29.0

Daylength (h): 12.6

Height of High Tide (m): 7.0

Radiation (E m^{-2}):

Daily Total: 48

During Ebb Tide (0815-1640): 40

During Incubation (1200-1400): 12

Mean h^{-1} during Incubation: 5.8

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	1.534	15,340	29,760
	Nitrogen :			
	Chlorophyll a :		260.7 (48.7)	505.8 (94.5)
	Phaeopigments :		20.7 (17.1)	40.2 (33.2)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production		Total Oxygen Uptake	Chemical Oxygen Uptake
	116.9	28.2	23.9
	130.2	24.8	23.4
	114.6	29.8	25.4
	140.9	30.7	11.3
	116.4	31.0	12.0
	147.3	25.5	11.7
Mean	127.7	28.3	18.0
SD	14.0	2.7	6.9
SD/Mean	0.1	0.1	0.4

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	156.0 (16.7)	1,075.9 (115.2)
Respiration:	11.3 (9.6)	271.2 (230.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.3

Quantum Yield (mg O_2 E^{-1}): 26.9

Photosynthetic Efficiency: 0.11

Date: 13/9/79

Station: PC-A

Temperature (°C): 23.0-29.0

Daylength (h): 12.6

Height of High Tide (m): 7.0

Radiation (E m^{-2}):

Daily Total: 48

During Ebb Tide (0815-1640): 40

During Incubation (1200-1400):12

Mean h^{-1} during Incubation: 5.8

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.534	15,340	29,760
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		260.7 (48.7)	505.8 (94.5)
	Phaeopigments :		20.7 (17.1)	40.2 (33.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	109.0	61.9	14.2
	132.1	61.7	15.5
	112.4	74.6	12.1
	131.7	65.5	16.2
	108.2		
	107.5		
Mean	116.8	65.9	14.5
SD	11.8	6.0	1.8
SD/Mean	0.1	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	182.7 (17.8)	1,260.0 (122.8)
Respiration:	51.4 (7.8)	1,233.6 (187.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 0.4

Quantum Yield (mg O_2 E^{-1}): 31.5

Photosynthetic Efficiency: 0.13

Date: 2/10/79
Station: PC-A
Temperature (°C): 17.0 - 20.0
Daylength (h): 11.7
Height of High Tide (m): 7.5
Radiation (E m^{-2}):
Daily Total: 15
During Ebb Tide (0700-0710 1110-1840): 9
During Incubation (1300-1445): 5
Mean h^{-1} during Incubation: 2.6

Surface Sediment		% dry wt.	ug g^{-1}	mg m^{-2}
Organic Carbon	:	0.720	7,200	13,968
Nitrogen	:			
Chlorophyll *a*	:		121.7 (33.7)	236.0 (65.4)
Phaeopigments	:		-1.8 (3.9)	0 -

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical·Oxygen Uptake
	92.0	55.1	14.4
	94.8	45.1	12.9
	116.4	45.8	12.8
	85.5	42.4	13.6
	100.3	42.5	5.8
	38.5	39.2	13.2
Mean	87.9	45.0	12.1
SD	26.4	5.5	3.1
SD/Mean	0.3	0.1	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	132.9 (31.9)	460.0 (110.4)
Respiration:	32.9 (8.6)	789.6 (206.4)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 0.6
Quantum Yield (mg O_2 E^{-1}): 51.1
Photosynthetic Efficiency: 0.21

Date: 2/10/79

Station: PC-A

Temperature (°C): 17.0-20.0

Daylength (h): 11.7

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 15

During Ebb Tide (0700-0710
1110-1840): 9

During Incubation (1300-1445):5

Mean h^{-1} during Incubation: 2.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		121.7 (33.7)	236.1 (65.4)
	Phaeopigments :		-1.8 (3.9)	0 -

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	136.0	45.6	
	113.7	45.7	
	22.5	54.9	
	61.3	53.5	
Mean	82.0	49.9	13.4
SD	49.4	4.9	3.5
SD/Mean	0.6	0.1	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	131.9 (54.3)	456.6 (188.0)
Respiration:	36.5 (8.4)	876.0 (201.6)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.6

Quantum Yield (mg O_2 E^{-1}): 50.7

Photosynthetic Efficiency: 0.21

Date: 5/10/79
Station: PC-A
Temperature (°C): 15.0
Daylength (h): 11.5
Height of High Tide (m): 8.4
Radiation (E m^{-2}):
Daily Total: 11
During Ebb Tide (0700-1000 1400-1835): 5
During Incubation (1000-1440): 6
Mean h^{-1} during Incubation: 1.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.720	7200	13,968
	Nitrogen :			
	Chlorophyll *a* :		133.9 (32.2)	259.8 (62.5)
	Phaeopigments :		3.7 (10.7)	7.2 (20.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-7.1	11.4	5.0
	-7.5	12.7	3.2
	-7.6	9.5	3.7
	-7.4	8.0	4.2
	-6.5	7.0	4.3
	-7.0	12.7	5.8
Mean	-7.2	10.2	4.4
SD	0.4	2.4	0.9
SD/Mean	0.1	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	3.0 (2.8)	12.5 (11.7)
Respiration:	5.8 (3.3)	139.2 (79.2)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 0.01
Quantum Yield (mg O_2 E^{-1}): 2.5
Photosynthetic Efficiency: 0.01

Date: 12/10/79

Station: PC-A

Temperature (°C): 10.0-13.0

Daylength (h): 11.2

Height of High Tide (m): 7.0

Radiation ($E\ m^{-2}$):

Daily Total: 20

During Ebb Tide (0745-1605): 16

During Incubation (1150-1300): 4

Mean h^{-1} during Incubation: 3.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.722	7220	14,007
Surface	Nitrogen :			
Sediment	Chlorophyll a :		114.6 (30.6)	222.3 (59.4)
	Phaeopigments :		20.5 (8.7)	39.8 (16.9)

mg $O_2\ m^{-2}\ h^{-1}$

Net Oxygen Production		Total Oxygen Uptake	Chemical Oxygen Uptake
	88.7	20.3	1.0
	86.7	20.1	0.2
	90.0	20.0	0.5
	77.2	16.2	3.1
	75.3	15.4	5.1
	106.2	13.5	2.6
Mean	87.4	17.6	1.7
SD	11.1	2.9	2.3
SD/Mean	0.1	0.2	1.4

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	105.0 (14.0)	525.0 (69.9)
Respiration:	15.9 (5.2)	381.6 (124.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 0.5

Quantum Yield (mg O_2 E^{-1}): 32.9

Photosynthetic Efficiency: 0.14

Date: 17/10/79

Station: PC-A

Temperature (°C): 10.0-14.0

Daylength (h): 10.9

Height of High Tide (m): 7.3

Radiation ($E\ m^{-2}$):

Daily Total: 33

During Ebb Tide (0715-0835 1235-1818): 18

During Incubation (1405-1545): 7

Mean h^{-1} during Incubation: 4.1

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.722	7,220	14,007
	Nitrogen :			
	Chlorophyll a :		84.6 (21.1)	164.1 (40.9)
	Phaeopigments :		1.2 (2.4)	2.3 (4.7)

mg $O_2\ m^{-2}\ h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	128.7	33.9	10.3
	110.0	28.4	13.4
	91.7	29.2	14.2
	99.9	19.5	10.6
	115.4	21.6	7.3
	102.7	22.8	12.3
Mean	108.2	26.0	11.4
SD	13.1	5.6	2.5
SD/Mean	0.1	0.2	0.2

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	134.2 (18.7)	589.2 (82.1)
Respiration:	14.6 (8.1)	350.4 (194.4)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.8

Quantum Yield (mg $O_2\ E^{-1}$): 32.7

Photosynthetic Efficiency: 0.13

Date: 26/10/79

Station: PC-A

Temperature (°C): 7.0-9.0

Daylength (h): 10.5

Height of High Tide (m): 7.7

Radiation (E m^{-2}):

Daily Total: 11

During Ebb Tide (0730-1415): 9

During Incubation (0945-1045): 1

Mean h^{-1} during Incubation: 1.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		44.7 (16.0)	86.7 (31.0)
	Phaeopigments :		2.5 (2.7)	4.9 (5.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	59.7	30.6	7.6
	68.9	24.5	8.5
	64.7	24.1	8.4
	67.7	23.6	11.7
	70.1	32.9	10.8
	86.6	20.6	12.9
Mean	69.6	26.1	10.0
SD	9.1	4.7	2.1
SD/Mean	0.1	0.2	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	95.7 (13.8)	615.2 (88.7)
Respiration:	16.0 (6.8)	386.4 (163.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 1.1

Quantum Yield (mg O_2 E^{-1}): 68.4

Photosynthetic Efficiency: 0.28

Date: 6/11/79
Station: PC-A
Temperature (°C): 8.0-9.0
Daylength (h): 9.9
Height of High Tide (m): 8.2
Radiation (E m^{-2}):
    Daily Total: 11
    During Ebb Tide (0645-1140 1540-1640): 4
    During Incubation (1105-1535): 8
    Mean h^{-1} during Incubation: 1.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.488	4,880	9,467
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		33.5 (12.2)	65.0 (23.7)
	Phaeopigments :		7.7 (1.5)	14.9 (2.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-18.5	27.4	8.5
	-28.8	31.3	7.2
	-26.0	32.5	7.9
	-30.0	32.0	8.6
	-29.3	20.3	7.1
	-29.2	27.3	7.5
Mean	-26.2	28.5	7.8
SD	4.2	4.6	0.7
SD/Mean	0.2	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	2.3 (8.8)	7.7 (29.5)
Respiration:	20.7 (5.3)	496.8 (127.2)
Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$)	0.04	

Quantum Yield (mg O_2 E^{-1}): 1.9
Photosynthetic Efficiency: 0.01

Date: 29/11/79

Station: PC-A

Temperature (°C): 6.0-7.0

Daylength (h): 9.1

Height of High Tide (m): 7.6

Radiation (E m^{-2}):

Daily Total: 14

During Ebb Tide (0940-1620): 13

During Incubation (1040-1150): 4

Mean h^{-1} during Incubation: 3.4

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.496	4,960	9,622
	Nitrogen :			
	Chlorophyll a :		7.2 (1.5)	14.0 (2.9)
	Phaeopigments :		3.6 (1.4)	7.0 (2.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	9.2	2.6	0.6
	7.3	2.3	3.8
	7.0	5.1	1.0
	7.1	3.7	1.4
	6.4	3.4	3.2
	17.4	3.0	
Mean	9.1	3.3	2.0
SD	4.2	1.0	1.4
SD/Mean	0.5	0.3	0.7

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	12.4 (5.2)	47.4 (19.9)
Respiration:	1.3 (2.4)	31.2 (57.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.9

Quantum Yield (mg O_2 E^{-1}): 3.7

Photosynthetic Efficiency: 0.02

Date: 5/12/79
Station: PC-A
Temperature (°C): 3.0-4.0
Daylength (h): 9.0
Height of High Tide (m): 6.9
Radiation (E m^{-2}):
Daily Total: 12
During Ebb Tide (0720-1055 1455-1620): 3
During Incubation (1040-1530): 9
Mean h^{-1} during Incubation: 2.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.670	6,700	12,998
Surface	Nitrogen :			
Sediment	Chlorophyll a :		3.5 (2.0)	6.8 (3.9)
	Phaeopigments :		8.6 (3.8)	16.7 (7.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-7.9	9.3	6.3
	-8.3	10.0	4.3
	-11.4	11.8	5.9
	-9.4	9.3	8.8
	-10.0	10.1	6.6
	-10.5	11.1	7.5
Mean	-9.6	10.3	6.6
SD	1.3	1.0	1.5
SD/Mean	0.1	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	0.7 (2.3)	1.1 (3.6)
Respiration:	3.7 (2.5)	88.8 (60.0)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.1
Quantum Yield (mg O_2 E^{-1}): 0.4
Photosynthetic Efficiency: 0.002

Date: 12/12/79

Station: PC-A

Temperature (°C): 6.0-8.0

Daylength (h): 8.8

Height of High Tide (m): 6.9

Radiation (E m^{-2}):

- Daily Total: 11
- During Ebb Tide (0825-1620): 11
- During Incubation (1040-1315): 5
- Mean h^{-1} during Incubation: 2.1

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.466	4660	9,040
	Nitrogen :			
	Chlorophyll *a* :		7.0 (0.4)	13.6 (0.8)
	Phaeopigments :		5.7 (1.0)	11.1 (1.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	8.2	8.8	2.6
	2.8	10.9	4.0
	7.6	8.1	3.3
	9.3	8.8	2.1
	7.8	10.1	3.6
	7.0	8.3	3.5
Mean	7.1	9.2	3.2
SD	2.3	1.1	0.7
SD/Mean	0.3	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	16.3 (3.4)	85.4 (17.8)
Respiration:	6.0 (1.8)	144.0 (43.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 1.2

Quantum Yield (mg O_2 E^{-1}): 7.8

Photosynthetic Efficiency: 0.03

Date: 10/1/80

Station: PC-A

Temperature (°C): -3.0

Daylength (h): 9.0

Height of High Tide (m): 7.6

Radiation (E m^{-2}):

Daily Total: 11

During Ebb Tide (0735-1540): 11

During Incubation (1015-1330): 7

Mean h^{-1} during Incubation: 2.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.70	7,000	135,800
	Nitrogen :			
	Chlorophyll a :		5.6 (1.9)	10.8 (3.7)
	Phaeopigments :		10.6 (7.9)	27.3 (20.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	no data		
Mean	-	-	-
SD	-	-	-
SD/Mean	-	-	-

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production: -	-	-
Respiration:	-	-

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 21/2/80

Station: PC-A

Temperature (°C): 2.5

Daylength (h): 10.8

Height of High Tide (m): 8.0

Radiation (E m^{-2}):

Daily Total: 10

During Ebb Tide (0605-1410
1810-1815): 8

During Incubation (0945-1300): 6

Mean h^{-1} during Incubation: 2.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.59	5900	11,446
	Nitrogen :			
	Chlorophyll *a* :		3.5 (0.7)	6.8 (1.4)
	Phaeopigments :		8.1 (2.8)	21.0 (7.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-0.6	0.5	0.6
	1.1	0.5	
	2.1	0.4	1.2
	1.3	0.9	
	1.8	0.4	1.4
	0	0.5	
	-8.1		
Mean	-0.3	0.4	1.1
SD	3.6	0.5	0.4
SD/Mean	12.0	1.3	0.4

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	0.1 (4.1)	0.4 (16.4)
Respiration:	0	0

Specific Production (mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 0.02

Quantum Yield (mg O_2 E^{-1}): 0.1

Photosynthetic Efficiency: 0.0002

Date: 20/3/80

Station: PC-A

Temperature (°C): 2.0-7.0

Daylength (h): 12.2

Height of High Tide (m): 8.4

Radiation (E m^{-2}):

Daily Total: 25

During Ebb Tide (0605-1255
1655-1815): 12

During Incubation (1035-1200): 7

Mean h^{-1} during Incubation: 5.2

Surface Sediment		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.64	6400	12,416
	Nitrogen :			
	Chlorophyll *a* :		2.8 (0.8)	5.4 (1.5)
	Phaeopigments :		7.3 (1.5)	14.2 (2.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-13.1	9.3	17.7
	- 6.4	20.7	12.6
	- 7.3	23.4	15.8
	- 9.2	25.1	
	-10.7	22.3	
	-14.7	13.5	
Mean	-10.2	19.1	15.4
SD	3.3	6.2	2.6
SD/Mean	0.3	0.3	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	8.9 (9.5)	20.5 (21.9)
Respiration:	3.7 (8.8)	88.8 (211.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 1.7

Quantum Yield (mg O_2 E^{-1}): 1.7

Photosynthetic Efficiency: 0.01

Date: 23/4/80

Station: PC-A

Temperature (°C): 5.5-7.0

Daylength (h): 13.9

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total:10

During Ebb Tide (0850-1915): 8

During Incubation (1000-1130):2

Mean h^{-1} during Incubation: 1.3

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.05	10,500	20,370
Surface	Nitrogen :			
Sediment	Chlorophyll $\underline{a}$:		17.2 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	138.1	20.6	4.1
	117.9	10.2	3.2
	150.0	7.3	3.3
Mean	135.3	12.7	3.5
SD	16.2	7.0	0.5
SD/Mean	0.1	0.6	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	148.0 (23.2)	910.8 (142.8)
Respiration:	9.2 (7.5)	220.8 (180.0)

Specific Production(mg O_2 (mg chl $\underline{a}$)$^{-1}$$h^{-1}$)1.1

Quantum Yield (mg O_2 E^{-1}): 113.9

Photosynthetic Efficiency: 0.47

Date: 23/4/80

Station: PC-A

Temperature (°C): 6.5-7.5

Daylength (h): 13.9

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 10

During Ebb Tide (0850-1915): 8

During Incubation (1154-1340):2

Mean h^{-1} during Incubation: 1.3

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	1.05	10,500	20,370
	Nitrogen :			
	Chlorophyll a :		72.7 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	143.6	21.9	4.1
	130.6	15.3	3.2
	133.4	6.6	3.3
Mean	135.8	14.6	3.5
SD	6.9	7.7	0.5
SD/Mean	0.1	0.5	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	150.4 (14.6)	925.5 (89.8)
Respiration:	11.1 (8.2)	266.4 (196.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.1

Quantum Yield (mg O_2 E^{-1}): 115.7

Photosynthetic Efficiency: 0.48

Date: 23/4/80

Station: PC-A

Temperature (°C): 7.8

Daylength (h): 13.

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

- Daily Total: 10
- During Ebb Tide (0850-1915): 8
- During Incubation (1350-1450): 1
- Mean h^{-1} during Incubation: 1.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.05	10,500	20,370
Surface	Nitrogen :			
Sediment	Chlorophyll a :		72.7 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	36.7	26.6	4.1
	129.4	19.0	3.2
	132.7	11.0	3.3
Mean	99.6	18.9	3.5
SD	54.5	7.8	0.5
SD/Mean	0.6	0.4	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	118.5 (62.3)	790.0 (415.3)
Respiration:	15.4 (8.3)	369.6 (199.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.8

Quantum Yield (mg O_2 E^{-1}): 98.8

Photosynthetic Efficiency: 0.41

Date: 23/4/80

Station:PC-A

Temperature (°C): 7.5

Daylength (h): 13.9

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 10

During Ebb Tide (0850-1915): 8

During Incubation (1500-1620): 1

Mean h^{-1} during Incubation: 0.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.05	10,500	20,370
Surface	Nitrogen :			
Sediment	Chlorophyll a :		72.7 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	17.9	15.2	4.1
	116.0	12.1	3.2
	149.4	8.7	3.3
Mean	94.4	12.0	3.5
SD	64.8	3.3	0.5
SD/Mean	0.7	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	106.4 (71.7)	945.8 (637.4)
Respiration:	8.5 (3.8)	204.0 (91.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$)0.8

Quantum Yield (mg O_2 E^{-1}): 118.2

Photosynthetic Efficiency: 0.49

Date: 23/4/80

Station: PC-C

Temperature (°C): 6.0-8.0

Daylength (h): 13.9

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 10

During Ebb Tide (0850-1915): 8

During Incubation (1100-1315): 3

Mean h^{-1} during Incubation: 1.3

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.05	10,500	20,370
Surface	Nitrogen :			
Sediment	Chlorophyll a :		37.0 (12.4)	95.5 (32.0)
	Phaeopigments :		4.2 (3.5)	8.2 (6.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	124.9	11.6	6.5
	107.6	21.9	8.9
	124.0	21.4	5.0
Mean	118.8	18.3	6.8
SD	9.7	5.8	2.0
SD/Mean	0.1	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	137.1 (15.5)	843.7 (95.4)
Respiration:	11.5 (7.8)	276.0 (187.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.4

Quantum Yield (mg O_2 E^{-1}): 105.5

Photosynthetic Efficiency: 0.43

Date: 24/4/80

Station:PC-A

Temperature (°C): 8.0-9.3

Daylength (h):14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 17

During Ebb Tide (0500-0550 0950-1825): 13

During Incubation (1100-1150): 2

Mean h^{-1} during Incubation: 2.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.05	10,500	20,370
Surface	Nitrogen :			
Sediment	Chlorophyll a :		72.7 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.5)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	167.2	17.4	13.5
	187.8	22.2	9.1
	189.4	29.4	8.3
Mean	181.5	23.0	10.3
SD	12.4	6.0	2.8
SD/Mean	0.1	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	204.5(18.4)	1208.4 (108.7)
Respiration:	12.7 (8.8)	304.8 (211.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.5

Quantum Yield (mg O_2 E^{-1}): 92.9

Photosynthetic Efficiency: 0.38

Date: 24/4/80

Station: PC-A

Temperature (°C): 8.5-10.7

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

- Daily Total: 17
- During Ebb Tide (0500-0550 0950-1825): 13
- During Incubation (1200-1300): 2
- Mean h^{-1} during Incubation: 2.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	1.05	10,500	20,370
	Nitrogen :			
	Chlorophyll a :		72.7 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	162.8	17.4	13.5
	177.1	22.2	9.1
	185.7	29.4	8.3
Mean	175.2	23.0	10.3
SD	11.6	6.0	2.8
SD/Mean	0.1	0.2	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	198.2 (17.6)	1171.2 (104.0)
Respiration:	12.7 (8.8)	304.8 (211.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.4

Quantum Yield (mg O_2 E^{-1}): 90.1

Photosynthetic Efficiency: 0.37

Date: 24/4/80

Station: PC-A

Temperature (°C): 9.0-11.0

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 17

During Ebb Tide (0500-0550 / 0950-1825): 13

During Incubation (1300-1335): 1

Mean h^{-1} during Incubation: 2.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	1.05	10,500	20,370
Surface	Nitrogen :			
Sediment	Chlorophyll a :		72.7 (13.2)	141.0 (25.6)
	Phaeopigments :		6.3 (3.9)	12.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	221.5	17.4	13.5
	239.3	22.2	9.1
	260.9	29.4	8.3
Mean	240.5	23.0	10.3
SD	19.8	6.0	2.8
SD/Mean	0.1	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	263.5 (25.8)	1427.3 (139.8)
Respiration:	12.7 (8.8)	304.8 (211.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$)1.9

Quantum Yield (mg O_2 E^{-1}): 109.8

Photosynthetic Efficiency: 0.45

Date: 24/4/80

Station: PC-A

Temperature (°C): 10.0-11.0

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 12

During Ebb Tide (0500-0550 / 0950-1825): 9

During Incubation (1245-1345): 2

Mean h^{-1} during Incubation: 1.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :	no samples collected		
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	32.4	17.4	13.5
	14.3	22.2	9.1
	112.4	29.4	8.3
	120.0		
Mean	69.8	23.0	10.3
SD	54.2	6.0	2.8
SD/Mean	0.8	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	92.8 (60.2)	522.0 (338.6)
Respiration:	12.7 (8.8)	304.8 (211.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 58.0

Photosynthetic Efficiency: 0.24

Date: 24/4/80

Station: PC-A

Temperature (°C): 8.0-10.5

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 12

During Ebb Tide (0500-0550 0950-1825): 9

During Incubation (1115-1245): 2

Mean h^{-1} during Incubation: 1.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :	no samples collected		
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

Net Oxygen Production		Total Oxygen Uptake	Chemical Oxygen Uptake
	6.4	17.4	13.5
	2.1	22.2	9.1
	62.5	29.4	8.3
	55.1		
Mean	31.7	23.0	10.3
SD	31.9	6.0	2.8
SD/Mean	1.0	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	54.7 (37.9)	307.7 (213.2)
Respiration:	12.7 (8.8)	304.8 (211.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 34.2

Photosynthetic Efficiency: 0.14

Date: 24/4/80

Station: PC-A

Temperature (°C): 8.0-10.5

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 3

During Ebb Tide (0500-0550
0950-1825): 3

During Incubation (1110-1305): 1

Mean h^{-1} during Incubation: 0.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :	no samples collected		
Sediment	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	55.4	17.4	13.5
	75.9	22.2	9.1
	30.6	29.4	8.3
	50.1		
Mean	53.0	23.0	10.3
SD	18.6	6.0	2.8
SD/Mean	0.4	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	76.0 (24.6)	456.0 (147.6)
Respiration:	12.7 (8.8)	204.8 (211.2

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 152.0

Photosynthetic Efficiency: 0.62

Date: 24/4/80

Station: PC-A

Temperature (°C): 10.5

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 3

During Ebb Tide (0500-0550 0950-1825): 3

During Incubation (1305-1350): 0.4

Mean h^{-1} during Incubation: 0.5

			% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon	:			
Surface	Nitrogen	:	no samples collected		
Sediment	Chlorophyll a	:			
	Phaeopigments	:			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	84.4	17.4	13.5
	92.5	22.2	9.1
	72.9	29.4	8.3
	88.8		
Mean	84.7	23.0	10.3
SD	8.5	6.0	2.8
SD/Mean	0.1	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	107.7 (14.5)	646.2 (87.0)
Respiration:	12.7 (8.8)	304.8 (211.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 215.4

Photosynthetic Efficiency: 0.89

Date: 24/4/80

Station: PC-C

Temperature (°C): 7.5-11.0

Daylength (h): 14.0

Height of High Tide (m): 7.2

Radiation ($E\ m^{-2}$):

Daily Total: 17

During Ebb Tide (0500-0550 0950-1825): 11

During Incubation (1115-1310): 4

Mean h^{-1} during Incubation: 2.2

Surface Sediment	% dry wt.	ug g^{-1}	mg m^{-2}
Organic Carbon :	0.46	4,600	8,924
Nitrogen :			
Chlorophyll *a* :		37.0 (12.4)	95.5 (32.0)
Phaeopigments :		4.2 (3.5)	10.8 (9.0)

mg $O_2\ m^{-2}\ b^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	65.2	11.7	4.3
	99.7	15.0	4.7
	-8.0	14.6	5.1
Mean	52.3	13.8	4.7
SD	55.0	1.8	0.4
SD/Mean	1.1	0.1	0.1

	mg $O_2\ m^{-2}h^{-1}$ (SD)	mg $O_2\ m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	66.0 (56.8)	330.0 (284.0)
Respiration:	9.1 (2.2)	218.4 (52.8)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 0.7

Quantum Yield (mg $O_2\ E^{-1}$): 30.0

Photosynthetic Efficiency: 0.12

Date: 6/5/80

Station:PC-A

Temperature (°C): 6.5

Daylength (h): 14.6

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total:9

During Ebb Tide (0645-1510
1910-2015): 5

During Incubation (1130-1300): 1

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.98	9,800	19,012
Surface	Nitrogen :			
Sediment	Chlorophyll a :		35.4 (18.5)	68.7 (35.8)
	Phaeopigments :		13.0 (4.0)	25.2 (7.8)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	5.3	13.7	1.4
	10.1	8.0	8.8
	11.8	15.8	7.0
	16.9	16.8	7.9
	32.4	22.4	9.0
	7.7	17.0	7.9
Mean	14.0	17.3	7.0
SD	9.8	2.9	2.8
SD/Mean	0.7	0.2	0.4

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	31.3 (12.7)	223.6 (90.7)
Respiration:	10.3 (5.7)	247.2 (136.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.5

Quantum Yield (mg O_2 E^{-1}): 44.7

Photosynthetic Efficiency: 0.18

Date: 27/5/80

Station: PC-A

Temperature (°C): 14.5

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total:18

During Ebb Tide (0520-0925 1325-2035): 11

During Incubation (1640-1740): 2

Mean h^{-1} during Incubation: 2.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.59	5,900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll a :		19.2 (6.0)	37.2 (11.7)
	Phaeopigments :		11.4 (1.3)	22.2 (2.5)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
23.8	5.3	3.7
40.7	6.2	4.2
45.1	6.6	4.1
Mean 36.5	6.0	4.0
SD 11.2	0.7	0.3
SD/Mean 0.3	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	42.5 (11.9)	233.8 (65.5)
Respiration:	2.0 (1.0)	48.0 (24.0)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.1

Quantum Yield (mg O_2 E^{-1}): 21.3

Photosynthetic Efficiency: 0.09

Date: 28/5/80

Station: PC-A

Temperature (°C): 14.0-20.0

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total: 38

During Ebb Tide (0520-1005 1405-2035): 21

During Incubation (0915-1000): 4

Mean h^{-1} during Incubation: 4.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.59	5,900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll a :		19.2 (6.01)	37.2 (11.7)
	Phaeopigments :		11.4 (1.3)	22.2 (2.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	57.1	13.6	6.6
	30.4	10.1	6.2
	6.6	18.4	5.1
		12.4	
		22.3	
		21.2	
Mean	31.4	16.3	6.0
SD	25.3	5.0	0.8
SD/Mean	0.8	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	47.7 (30.3)	217.8 (138.4)
Respiration:	10.3 (5.8)	247.2 (139.2)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.3

Quantum Yield (mg O_2 E^{-1}): 10.4

Photosynthetic Efficiency: 0.04

Date: 28/5/80

Station: PC-A

Temperature (°C): 13.5-19.0

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total: 38

During Ebb Tide (0520-1005 1405-2035): 21

During Incubation (1500-1630): 5

Mean h^{-1} during Incubation: 3.2

Surface Sediment	% dry wt.	ug g^{-1}	mg m^{-2}
Organic Carbon :	0.59	5,900	11,446
Nitrogen :			
Chlorophyll *a* :		19.2 (6.0)	37.2 (11.7)
Phaeopigments :		11.4 (1.3)	22.2 (2.6)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
30.2	15.1	7.9
-15.0	18.0	6.5
-11.0	25.6	7.6
Mean 1.4	19.6	7.3
SD 25.0	5.4	0.7
SD/Mean 17.9	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	21.0 (30.4)	137.8 (199.5)
Respiration:	12.3 (6.1)	295.2 (146.4)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 0.6

Quantum Yield (mg O_2 E^{-1}): 6.6

Photosynthetic Efficiency: 0.27

Date: 28/5/80

Station: PC-A

Temperature (°C): 15.5

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total:38

During Ebb Tide (0520-1005 1405-2035): 21

During Incubation (1645-1805): 4

Mean h^{-1} during Incubation: 2.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.59	5,900	11,446
	Nitrogen :			
	Chlorophyll a :		19.2 (6.0)	37.2 (11.7)
	Phaeopigments :		11.4 (1.3)	22.2 (2.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	7.3	15.1	7.9
	8.3	18.0	6.5
	26.5	25.6	7.6
Mean	14.0	19.6	7.3
SD	10.8	5.4	0.7
SD/Mean	0.8	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	33.6 (16.2)	271.4 (130.9)
Respiration:	12.3 (6.1)	295.2 (146.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.9

Quantum Yield (mg O_2 E^{-1}): 12.9

Photosynthetic Efficiency: 0.05

Date: 28/5/80

Station: PC-A

Temperature (°C): 16.0-17.0

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 27

During Ebb Tide (0520-1005 1405-2035): 15

During Incubation (1535-1810): 5

Mean h^{-1} during Incubation: 2.0

			% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon	:			
Surface	Nitrogen	:	no samples collected		
Sediment	Chlorophyll a	:			
	Phaeopigments	:			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-22.1	15.1	7.9
	-13.3	18.0	6.5
	-28.8	25.6	7.6
	-12.5		
Mean	-19.2	19.6	7.3
SD	7.8	5.4	0.7
SD/Mean	0.4	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	0.4 (13.2)	3.0 (99.0)
Respiration:	12.3 (6.1)	295.2 (146.4)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 0.2

Photosynthetic Efficiency: 0.001

Date: 28/5/80

Station: PC-A

Temperature (°C): 17.0

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 8

During Ebb Tide (0520-1005 / 1405-2035): 4

During Incubation (1540-1815): 2

Mean h^{-1} during Incubation: 0.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :	no samples collected		
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
-12.9	15.1	7.9
-21.2	18.1	6.5
- 7.4	25.6	7.6
-16.5		
Mean -14.5	19.6	7.3
SD 5.8	5.4	0.7
SD/Mean 0.4	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	5.1 (11.2)	34.0 (74.7)
Respiration:	12.3 (6.1)	295.2 (146.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 8.5

Photosynthetic Efficiency: 0.04

Date: 28/5/80
Station: PC-A
Temperature (°C): 16.6-15.9
Daylength (h): 15.3
Height of High Tide (m): 7.3
Radiation (E m^{-2}): plexiglass cover (14%)
Daily Total: 5
During Ebb Tide (0520-1005 1405-2035): 3
During Incubation (1540-1820): 1
Mean h^{-1} during Incubation: 0.4

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	no samples collected		
	Nitrogen :			
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-14.3	15.1	7.9
	-14.0	18.0	6.5
	-14.6	25.6	7.6
	-12.9		
Mean	-14.0	19.6	7.3
SD	0.7	5.4	0.7
SD/Mean	0.1	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	5.6 (6.1)	42.0 (45.8)
Respiration:	12.3 (6.1)	295.2 (146.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -
Quantum Yield (mg O_2 E^{-1}): 14.0
Photosynthetic Efficiency: 0.06

Date: 28/5/80

Station: PC-A

Temperature (°C): 16.5 - 15.5

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}): plexiglass cover (1%)

Daily Total: 0.4

During Ebb Tide (0520-1005
1405-2035): 0.2

During Incubation (1545-1825):0.1

Mean h^{-1} during Incubation: 0.03

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :	no samples collected		
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-17.1	15.1	
	-18.4	18.0	
	-12.0	25.6	
	-17.5		
Mean	-16.3	19.6	7.3
SD	2.9	5.4	0.7
SD/Mean	0.2	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	3.3 (8.3)	22.0 (55.3)
Respiration:	12.3 (6.1)	295.2 (146.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 110.0

Photosynthetic Efficiency: 0.45

Date: 28/5/80

Station: PC-C

Temperature (°C): 15.5

Daylength (h): 15.3

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total: 38

During Ebb Tide (0520-1005
1405-2035): 19

During Incubation (1605-1745): 7

Mean h^{-1} during Incubation: 4.1

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.59	5,900	11,446
	Nitrogen :			
	Chlorophyll a :		19.9 (5.5)	51.4 (14.1)
	Phaeopigments :		9.1 (2.0)	23.3 (5.1)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-5.9	34.6	5.4
	24.6	43.7	7.5
	15.2	34.6	5.0
Mean	11.3	37.6	6.0
SD	15.6	5.3	1.3
SD/Mean	1.4	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	48.9 (20.9)	226.6 (96.9)
Respiration:	31.6 (6.6)	758.4 (158.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.0

Quantum Yield (mg O_2 E^{-1}): 11.9

Photosynthetic Efficiency: 0.05

Date: 29/5/80

Station: PC-A

Temperature (°C): 14.0-22.0

Daylength (h): 15.3

Height of High Tide (m): 7.4

Radiation (E m^{-2}):

Daily Total: 48

During Ebb Tide (0520-1030
1430-2035): 26

During Incubation (0900-1015): 6

Mean h^{-1} during Incubation: 4.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.59	5,900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		19.2 (6.0)	37.2 (11.7)
	Phaeopigments :		11.4 (1.3)	22.2 (2.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	71.0	21.6	5.0
	7.2	24.2	5.2
	54.3	15.9	2.8
Mean	44.2	20.6	4.3
SD	33.1	4.3	1.3
SD/Mean	0.8	0.2	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	64.8 (37.4)	358.5 (206.9)
Respiration:	16.3 (5.6)	391.2 (134.4)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 1.7

Quantum Yield (mg O_2 E^{-1}): 13.8

Photosynthetic Efficiency: 0.06

Date: 17/6/80

Station:PC-A

Temperature (°C): 14.5-21.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0550-1420
1820-2050): 35

During Incubation (0915-1030): 5

Mean h^{-1} during Incubation: 3.9

Surface Sediment		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.59	5,900	11,446
	Nitrogen :			
	Chlorophyll a :		10.2 (4.3)	19.8 (8.4)
	Phaeopigments :		12.3 (2.3)	23.9 (4.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	87.5	54.6	8.4
	136.9	54.8	9.6
	132.0	41.2	9.0
Mean	118.8	50.2	9.0
SD	27.2	7.8	0.6
SD/Mean	0.2	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	169.0 (35.0)	1516.7 (314.1)
Respiration:	41.2 (8.4)	988.8 (201.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 8.5

Quantum Yield (mg O_2 E^{-1}): 43.3

Photosynthetic Efficiency: 0.18

Date: 17/6/80

Station: PC-A

Temperature (°C): 20.0-27.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0550-1420
1820-2050): 35

During Incubation (1030-1220): 10

Mean h^{-1} during Incubation: 5.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	.59	5,900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll a :		10.2 (4.3)	19.8 (8.4)
	Phaeopigments :		12.3 (2.3)	23.9 (4.4)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
34.1	42.4	8.4
65.0	47.2	9.6
77.6	42.0	9.0
Mean 58.9	43.9	9.0
SD 22.4	2.9	0.6
SD/Mean 0.38	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	102.8 (25.3)	691.9 (170.3)
Respiration:	34.9 (3.5)	837.6 (84.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 5.2

Quantum Yield (mg O_2 E^{-1}): 19.8

Photosynthetic Efficiency: 0.08

Date: 17/6/80

Station: PC-A

Temperature (°C): 24.0-29.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0550-1420
1820-2050): 35

During Incubation (1225-1405): 10

Mean h^{-1} during Incubation: 6.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	.59	5,900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll a :		10.2 (4.3)	19.8 (8.4)
	Phaeopigments :		12.3 (2.3)	23.9 (4.4)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
65.0	41.2	8.4
112.6	49.2	9.6
118.3	51.1	9.0
Mean 98.6	47.2	9.0
SD 29.3	5.3	0.6
SD/Mean 0.3	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	145.8 (34.6)	850.5 (201.8)
Respiration:	38.2 (5.9)	916.8 (141.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 7.4

Quantum Yield (mg O_2 E^{-1}): 24.3

Photosynthetic Efficiency: 0.1

Date: 17/6/80

Station: PC-A

Temperature (°C): 24.0-29.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0550-1420 1820-2050): 35

During Incubation (1335-1420): 5

Mean h^{-1} during Incubation: 6.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	.59	5900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll a :		10.2 (4.3)	19.8 (8.4)
	Phaeopigments :		12.3 (2.3)	23.9 (4.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	21.3	41.2	8.4
	43.9	49.2	9.6
	22.0	51.1	9.0
	31.7		
	-13.9		
Mean	21.0	47.2	9.0
SD	21.6	5.3	0.6
SD/Mean	1.0	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	68.2 (26.9)	373.0 (147.1)
Respiration:	38.2 (5.9)	916.8 (141.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 3.4

Quantum Yield (mg O_2 E^{-1}): 10.7

Photosynthetic Efficiency: 0.04

Date: 17/6/80
Station: PC-A
Temperature (°C): 23.5-32.0
Daylength (h): 15.6
Height of High Tide (m): 7.8
Radiation (E m^{-2}): plexiglass cover (70%)
Daily Total: 35
During Ebb Tide (0550-1420
1820-2050): 24
During Incubation (1325-1425): 5
Mean h^{-1} during Incubation: 45

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :	no samples		
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake		Chemical Oxygen Uptake
	15.1	25.3	54.6	8.4
	7.4	31.5	54.8	9.6
	1.7	57.3	41.2	9.0
	5.1	13.9	42.4	
		41.2	47.2	
		49.2	42.0	
		51.1		
Mean	7.3	42.4		9.0
SD	5.7	12.6		0.6
SD/Mean	0.3	0.3		0.1

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	49.7 (18.3)	265.1 (97.6)
Respiration:	33.4 (13.2)	801.6 (316.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) -
Quantum Yield (mg O_2 E^{-1}): 11.0
Photosynthetic Efficiency: 0.05

Date: 17/6/80
Station: PC-A
Temperature (°C): 23.5-29.5
Daylength (h): 15.6
Height of High Tide (m): 7.8
Radiation (E m^{-2}): plexiglass cover (20%)
Daily Total: 10
During Ebb Tide (0550-1420
1820-2050): 7
During Incubation (1320-1430): 2
Mean h^{-1} during Incubation: 1.3

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :	no samples		
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake		Chemical Oxygen Uptake
	-62.2	31.5	54.6	84.0
	-16.3	25.3	54.8	9.6
	-13.4	57.3	41.2	9.0
		13.9	42.4	
		41.2	47.2	
		49.2	42.0	
		51.1		
Mean	-24.1	42.4		9.0
SD	25.9	12.6		0.6
SD/Mean	1.1	0.3		0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	18.3 (38.5)	98.5 (207.2)
Respiration:	33.4 (13.2)	801.6 (316.1)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -
Quantum Yield (mg O_2 E^{-1}): 14.1
Photosynthetic Efficiency: 0.06

Date: 17/6/80

Station: PC-A

Temperature (°C): 25.0-27.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}): plexiglass cover (14%)

Daily Total: 7

During Ebb Tide (0550-1420
1820-2050): 5

During Incubation (1310-1435): 1

Mean h^{-1} during Incubation: 0.9

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :	no samples		
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake		Chemical Oxygen Uptake
-49.2	57.3	54.6	8.4
-32.0	31.5	54.8	9.6
-79.2	25.3	41.2	9.0
-45.5	13.9	42.4	
	41.2	47.2	
	49.2	42.0	
	51.1		
Mean -51.5	42.4		9.0
SD 19.9	12.6		0.6
SD/Mean 0.4	0.3		0.1

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	-9.1 (32.5)	-50.6 (180.7)
Respiration:	33.4 (13.2)	801.6 (316.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 17/6/80

Station: PC-C

Temperature (°C): 17.5-23.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0550-1420 1820-2050): 28

During Incubation (1000-1110): 5

Mean h^{-1} during Incubation: 4.0

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	.39	3,900	10,062
	Nitrogen :			
	Chlorophyll a :		15.9 (8.9)	41.1 (22.9)
	Phaeopigments :		6.3 (2.9)	12.2 (5.7)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	73.5	47.6	9.2
	65.7	60.7	5.7
	134.0	79.5	11.0
Mean	91.1	62.6	8.6
SD	37.4	16.0	2.7
SD/Mean	0.4	0.3	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	153.7 (53.4)	1075.9 (373.8)
Respiration:	54.0 (18.7)	1296.0 (448.8)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 3.7

Quantum Yield (mg O_2 E^{-1}): 38.4

Photosynthetic Efficiency: 0.16

Date: 17/6/80

Station: PC-C

Temperature (°C):21.0-27.0

Daylength (h): 15.6

Height of High Tide (m): 7.8

Radiation (E m^{-2}):

Daily Total: 50

During Ebb Tide (0550-1420
1820-2050): 28

During Incubation (1110-1345): 15

Mean h^{-1} during Incubation: 5.9

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.39	3,900	10,062
	Nitrogen :			
	Chlorophyll a :		15.9 (8.9)	41.1 (22.9)
	Phaeopigments :		6.3 (2.9)	16.2 (7.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	23.5	64.7	6.4
	44.5	64.6	
	71.8	80.7	
			9.2 5.7 11.0 from previous incubation
Mean	46.6	70.0	8.1
SD	24.2	9.3	2.5
SD/Mean	0.5	0.1	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	116.6 (33.5)	553.4 (159.0)
Respiration:	61.9 (11.8)	1485.6 (283.2)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 2.8

Quantum Yield (mg O_2 E^{-1}): 19.8

Photosynthetic Efficiency: 0.08

Date: 18/6/80

Station: PC-A

Temperature (°C): 17.0-23.0

Daylength (h): 15.6

Height of High Tide (m): 7.6

Radiation (E m^{-2}):

Daily Total: 52

During Ebb Tide (0645-1515 1915-2050): 41

During Incubation (0930-1100): 8

Mean h^{-1} during Incubation: 5.4

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.59	5,900	11,446
	Nitrogen :			
	Chlorophyll *a* :		10.2 (4.3)	19.8 (8.4)
	Phaeopigments :		12.3 (2.3)	23.9 (4.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	53.7	13.8	7.0
	6.1	9.0	8.2
	12.5	16.7	
Mean	24.1	13.2	7.6
SD	25.8	3.9	0.9
SD/Mean	1.1	0.3	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	37.3 (29.7)	283.2 (225.5)
Respiration:	5.6 (4.8)	134.4 (115.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 1.9

Quantum Yield (mg O_2 E^{-1}): 6.9

Photosynthetic Efficiency: 0.4

Date: 18/6/80

Station: PC-A

Temperature ([illegible]): 23.5

Daylength (h): 15.6

Height of High Tide (m): 7.6

Radiation (E m^{-2}):

Daily Total: 52

During Ebb Tide (0645-1515 1915-2050): 41

During Incubation (1100-1230): 10

Mean h^{-1} during Incubation: 6.6

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.59	5,900	11,446
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		10.2 (4.3)	19.8 (8.4)
	Phaeopigments :		12.3 (2.3)	23.9 (4.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	2.9	13.4	7.0
	-14.2	30.5	8.2
	48.0		
Mean	12.2	22.0	7.6
SD	32.1	12.1	0.9
SD/Mean	2.6	0.6	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	34.2 (44.2)	212.5 (274.6)
Respiration:	14.4 (13.0)	345.6 (312.0)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 1.7

Quantum Yield (mg O_2 E^{-1}): 5.2

Photosynthetic Efficiency: 0.02

Date: 18/6/80

Station: PC-A

Temperature (°C): 17.5 - 26.5

Daylength (h): 15.6

Height of High Tide (m): 7.6

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 37

During Ebb Tide (0645-1515 / 1915-2050): 29

During Incubation (0945-1305): 14

Mean h^{-1} during Incubation: 4.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	no samples collected		
	Nitrogen :			
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
21.8	13.8	7.0
15.0	9.0	8.2
12.8	16.7	
-22.1	13.4	
	30.5	
Mean 6.9	16.7	7.6
SD 19.7	8.2	0.8
SD/Mean 2.9	0.6	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	23.6 (27.9)	163.0 (192.7)
Respiration:	9.1 (9.0)	218.4 (216.0)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$)-

Quantum Yield (mg O_2 E^{-1}): 5.6

Photosynthetic Efficiency: 0.02

Date: 18/6/80

Station: PC-A

Temperature (°C): 16.5 - 27.0

Daylength (h): 15.6

Height of High Tide (m): 7.6

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 11

During Ebb Tide (0645-1515 / 1915-2050): 8

During Incubation (0950-1320): 4

Mean h^{-1} during Incubation: 1.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :	no samples collected		
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

Net Oxygen Production.	Total Oxygen Uptake	Chemical Oxygen Uptake
- 2.8	13.8	7.0
5.4	9.0	8.2
0.2	16.7	
-11.2	13.4	
	30.5	
Mean - 2.1	16.7	7.6
SD 6.9	8.2	0.8
SD/Mean 3.3	0.6	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	14.6 (15.1)	97.3 (100.6)
Respiration:	9.1 (9.0)	218.4 (216.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): 12.2

Photosynthetic Efficiency: 0.04

Date: 18/6/80

Station: PC-A

Temperature (°C): 16.5-24.0

Daylength (h): 15.6

Height of High Tide (m): 7,6

Radiation (E m^{-2}): plexiglass cover (14%)

Daily Total: 7

During Ebb Tide (0645-1515
1915-2050): 6

During Incubation (0955-1345): 3

Mean h^{-1} during Incubation: 0.8

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :	no samples collected		
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-24.2	13.8	7.0
	-23.6	9.0	8.2
	-23.3	16.7	
	-13.9	13.4	
		30.5	
Mean	-21.3	16.7	7.6
SD	4.9	8.2	0.8
SD/Mean	0.2	0.5	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	-4.6 (12.8)	-34.5 (96.0)
Respiration:	9.1 (9.0)	218.4 (216.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$)-

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 18/6/80

Station: PC-A

Temperature (°C): 17.5-23.5

Daylength (h): 15.6

Height of High Tide (m): 7.6

Radiation (E m^{-2}): plexiglass cover (1%)

Daily Total: 1

During Ebb Tide (0645-1515
1915-2050): >1

During Incubation (1005-1400): >1

Mean h^{-1} during Incubation: 0.06

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	no samples		
	Nitrogen :			
	Chlorophyll a :			
	Phaeopigments :			

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-16.1	13.8	7.0
	-17.6	9.0	8.2
	-11.2	16.7	
	-21.3	13.4	
		30.5	
Mean	-16.6	16.7	7.6
SD	4.2	8.2	0.8
SD/Mean	0.3	0.5	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	0.1 (12.4)	0.7 (86.8)
Respiration:	9.1 (9.0)	218.4 (216.0)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$)-

Quantum Yield (mg O_2 E^{-1}): 1.7

Photosynthetic Efficiency: 0.01

Date: 31/7/80

Station: PC-A

Temperature (°C): 16.5

Daylength (h): 14.8

Height of High Tide (m): 8.1

Radiation (E m^{-2}):

Daily Total: 36

During Ebb Tide (0545-1345 1745-2030): 19

During Incubation (0900-0945):1.0

Mean h^{-1} during Incubation: 1.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.44	4,400	8,536
	Nitrogen :			
	Chlorophyll a :		13.6 (3.4)	26.4 (6.5)
	Phaeopigments :		10.1 (2.8)	19.6 (5.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-37.7	43.1	10.4
	-19.7	56.4	8.0
	-15.6	37.3	31.2
Mean	-24.3	45.6	16.5
SD	11.8	9.8	12.8
SD/Mean	0.5	0.2	0.8

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	21.3 (21.6)	337.3 (342.1)
Respiration:	29.5 (22.6)	708.0 (542.4)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.8

Quantum Yield (mg O_2 E^{-1}): 17.8

Photosynthetic Efficiency: 0.06

Date: 31/7/80

Station: PC-A

Temperature (°C): 17.0-22.0

Daylength (h): 14.8

Height of High Tide (m): 8.1

Radiation (E m^{-2}):

Daily Total: 36

During Ebb Tide (0545-1345 1745-2030): 19

During Incubation (1010-1115): 3

Mean h^{-1} during Incubation: 2.8

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.44	4,400	8,536
	Nitrogen :			
	Chlorophyll a :		13.6 (3.4)	26.4 (6.5)
	Phaeopigments :		10.1 (2.8)	19.6 (5.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	- 9.8	45.8	4.9
	-22.9	56.7	6.7
	- 1.1	46.9	7.2
Mean	-11.3	49.8	6.3
SD	11.0	6.0	1.2
SD/Mean	1.0	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	38.5 (17.0)	261.3 (115.4)
Respiration:	43.5 (7.2)	1044.0 (172.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$)1.5

Quantum Yield (mg O_2 E^{-1}): 13.8

Photosynthetic Efficiency: 0.05

Date: 31/7/80

Station: PC-A

Temperature (°C):

Daylength (h): 14.8

Height of High Tide (m): 8.1

Radiation (E m^{-2}):

Daily Total: 36

During Ebb Tide (0545-1345 1745-2030): 19

During Incubation (1225-1310): 4

Mean h^{-1} during Incubation: 5.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.44	4,400	8,536
Surface	Nitrogen :			
Sediment	Chlorophyll a :		13.6 (3.4)	26.4 (6.5)
	Phaeopigments :		10.1 (2.8)	19.6 (5.4)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
28.1	68.1	15.1
-13.5	71.1	19.1
16.0	72.0	16.3
Mean 10.2	70.4	16.8
SD 21.4	2.0	2.1
SD/Mean 2.1	0.03	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	80.6 (23.4)	283.6 (82.3)
Respiration:	53.6 (4.1)	1,286.4 (98.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 3.1

Quantum Yield (mg O_2 E^{-1}): 14.9

Photosynthetic Efficiency: 0.05

Date: 31/7/80

Station: PC-C

Temperature (°C): 19.0-23.0

Daylength (h): 14.8

Height of High Tide (m): 8.1

Radiation (E m^{-2}):

Daily Total: 36

During Ebb Tide (0545-1345
1745-2030): 16

During Incubation (1030-1115): 2

Mean h^{-1} during Incubation: 3.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.31	3,100	7,998
Surface	Nitrogen :			
Sediment	Chlorophyll a :		33.7 (5.0)	86.8 (12.8)
	Phaeopigments :		4.7 (1.7)	12.0 (4.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	144.6	49.2	2.5
	165.6	39.7	0.8
	129.9	53.6	0.9
Mean	146.7	47.5	1.4
SD	17.9	7.1	1.0
SD/Mean	0.1	0.2	0.7

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	194.2 (25.0)	971.0 (125.0)
Respiration:	46.1 (8.1)	1106.4 (194.4)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 2.2

Quantum Yield (mg O_2 E^{-1}): 60.7

Photosynthetic Efficiency: 0.21

Date: 1/8/80

Station: PC-A

Temperature (°C): 18.5-23.0

Daylength (h): 14.7

Height of High Tide (m): 8.0

Radiation (E m^{-2}):

Daily Total:46

During Ebb Tide (0555-1420
1820-2025): 30

During Incubation (0855-0945): 2

Mean h^{-1} during Incubation: 2.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.44	4,400	8,536
Surface	Nitrogen :			
Sediment	Chlorophyll a :		13.6 (3.4)	26.4 (6.5)
	Phaeopigments :		10.1 (2.8)	19.6 (5.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	6.02	48.2	0
	-2.5	45.5	
	9.9	46.4	
Mean	4.5	46.7	0
SD	6.3	1.4	
SD/Mean	1.4	0.03	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	51.2 (7.7)	568.9 (85.6)
Respiration:	46.7 (1.4)	1120.8 (33.6)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.9

Quantum Yield (mg O_2 E^{-1}): 19.0

Photosynthetic Efficiency: 0.07

Date: 1/8/80

Station: PC-C

Temperature (°C): 23.4-27.4

Daylength (h): 14.7

Height of High Tide (m): 8.0

Radiation (E m^{-2}):

Daily Total: 46

During Ebb Tide (0555-1420 1820-2025): 27

During Incubation (1115-1200): 4

Mean h^{-1} during Incubation: 5.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.31	3,100	7,998
Surface	Nitrogen :			
Sediment	Chlorophyll a :		33.7 (5.0)	86.8 (12.8)
	Phaeopigments :		4.7 (1.7)	12.0 (4.4)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	171.5	107.1	11.3
	167.3		
Mean	169.4	107.1	11.3
SD	3.0		
SD/Mean	0.02		

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	276.5 (3.0)	1309.7 (14.2)
Respiration:	95.8 (-)	2299.2 (-)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 3.2

Quantum Yield (mg O_2 E^{-1}): 48.5

Photosynthetic Efficiency: 0.17

Date: 1/8/80

Station: PC-C

Temperature (°C): 26.0-29.0

Daylength (h): 14.7

Height of High Tide (m): 8.0

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 32

During Ebb Tide (0555-1420 1820-2025): 19

During Incubation (1115-1210): 4

Mean h^{-1} during Incubation: 4.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		35.0 (7.2)	90.3 (18.6)
	Phaeopigments :		3.0 (3.3)	7.7 (8.5)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	74.2	107.1	11.3
	113.3		
	67.5		
	70.7		
Mean	81.4	107.1	11.3
SD	21.4		
SD/Mean	0.3		

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	188.5 (21.4)	895.4 (101.7)
Respiration:	95.8 (-)	2299.2 (-)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 2.1

Quantum Yield (mg O_2 E^{-1}): 47.1

Photosynthetic Efficiency: 0.17

Date: 1/8/80

Station: PC-C

Temperature (°C): 26.0-29.0

Daylength (h): 14.7

Height of High Tide (m): 8.0

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 9

During Ebb Tide (0555-1420
1825-2025): 6

During Incubation (1110-1215): 1

Mean h^{-1} during Incubation: 1.2

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		55.7 (11.3)	143.7 (29.2)
	Phaeopigments :		5.4 (2.3)	13.9 (5.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	48.8	107.1	11.3
	50.1		
	36.5		
	41.5		
Mean	44.2	107.1	11.3
SD	6.4		
SD/Mean	0.1		

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	151.3 (6.4)	756.5 (32.0)
Respiration:	95.8 (-)	2299.2 (-)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 1.1

Quantum Yield (mg O_2 E^{-1}): 126.1

Photosynthetic Efficiency: 0.52

Date: 1/8/80

Station: PC-C

Temperature (°C): 23.0-28.0

Daylength (h): 14.7

Height of High Tide (m): 8.0

Radiation (E m^{-2}): plexiglass cover (14%)

Daily Total: 6

During Ebb Tide (0555-1420 / 1820-2025): 4

During Incubation (1100-1220): 1

Mean h^{-1} during Incubation: 0.8

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		108.6 (33.1)	280.2 (85.4)
	Phaeopigments :		5.7 (7.0)	14.7 (18.1)

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
19.3	107.1	11.3
11.3		
-24.5		
11.4		
Mean 4.4	107.1	11.3
SD 19.6		
SD/Mean 4.5		

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	111.5 (19.6)	557.5 (98.0)
Respiration:	95.8 (-)	2299.2 (-)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.4

Quantum Yield (mg O_2 E^{-1}): 139.4

Photosynthetic Efficiency: 0.57

Date: 1/8/80

Station: PC-C

Temperature (°C): 23.0-28.0

Daylength (h): 14.7

Height of High Tide (m):8.0

Radiation (E m^{-2}): plexiglass cover (1%)

Daily Total: 1

During Ebb Tide (0555-1420 1820-2025): <1

During Incubation (1055-1230): <1

Mean h^{-1} during Incubation: 0.1

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :			
	Nitrogen :			
	Chlorophyll a :		54.9 (5.1)	141.6 (13.2)
	Phaeopigments :		4.5 (1.9)	11.6 (4.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-19.7	107.1	11.3
	-51.3		
	-46.1		
	-17.2		
Mean	-33.6	107.1	11.3
SD	17.6		
SD/Mean	0.5		

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	73.5 (17.6)	220.5 (52.8)
Respiration:	95.8 (-)	2299.2 (-)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.5

Quantum Yield (mg O_2 E^{-1}): 735

Photosynthetic Efficiency: 3.0

Date: 14/8/80

Station: PC-A

Temperature (°C): 19.5

Daylength (h): 14.1

Height of High Tide (m): 7.7

Radiation (E m^{-2}):

Daily Total: 20

During Ebb Tide (0600-1320 1720-2010): 13

During Incubation (0920-0955): 1

Mean h^{-1} during Incubation: 1.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.55	5,500	10,670
Surface	Nitrogen :			
Sediment	Chlorophyll a :		49.7 (10.5)	96.5 (20.4)
	Phaeopigments :		4.5 (1.5)	8.7 (2.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	116.6	70.3	14.0
	91.0	72.4	20.0
	86.2	72.4	18.1
Mean	97.9	71.7	17.4
SD	16.3	1.2	3.1
SD/Mean	0.2	0.02	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	169.6 (17.5)	1160.4 (119.7)
Respiration:	54.3 (4.3)	1303.2 (103.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.8

Quantum Yield (mg O_2 E^{-1}): 89.3

Photosynthetic Efficiency: 0.37

Date: 14/8/80

Station: PC-A

Temperature (°C): 23.2

Daylength (h): 14.3

Height of High Tide (m): 7.7

Radiation (E m^{-2}):

Daily Total: 20

During Ebb Tide (0600-1320
 1720-2010): 13

During Incubation (1130-1215): 3

Mean h^{-1} during Incubation: 3.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.55	5,500	10,670
Surface	Nitrogen :			
Sediment	Chlorophyll a :		49.7 (10.5)	96.5 (20.4)
	Phaeopigments :		4.5 (1.5)	8.7 (2.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	169.7	40.0	4.4
	156.7	54.4	0
	142.4	55.6	0
Mean	156.3	50.0	1.5
SD	13.7	8.7	2.5
SD/Mean	0.1	0.2	1.7

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	206.3 (22.4)	766.3 (83.2)
Respiration:	48.5 (11.2)	1236.0 (268.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.1

Quantum Yield (mg O_2 E^{-1}): 58.9

Photosynthetic Efficiency: 0.24

Date: 14/8/80

Station: PC-C

Temperature (°C): 21.0

Daylength (h): 14.3

Height of High Tide (m): 7.7

Radiation (E m^{-2}):

Daily Total: 20

During Ebb Tide (0600-1320
1720-2010): 10

During Incubation (1030-1105): 1

Mean h^{-1} during Incubation: 1.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.28	2800	7224
Surface	Nitrogen :			
Sediment	Chlorophyll a :		76.7 (10.6)	197.9 (27.3)
	Phaeopigments :		0 0	0 0

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
82.5	58.3	0
178.8	55.0	0
170.0	50.7	0
Mean 143.8	54.7	0
SD 53.2	3.8	
SD/Mean 0.4	0.1	

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	198.5 (57.0)	1167.7 (335.3)
Respiration:	54.7 (3.8)	1312.8 (91.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.0

Quantum Yield (mg O_2 E^{-1}): 116.8

Photosynthetic Efficiency: 0.48

Date: 15/8/80

Station: PC-A

Temperature (°C): 22.5

Daylength (h): 14.1

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 22

During Ebb Tide (0600-1355 1755-2010): 18

During Incubation (1100-1140): 2

Mean h^{-1} during Incubation: 3.1

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.55	5,500	10,670
	Nitrogen :			
	Chlorophyll *a* :		49.7 (10.5)	96.5 (20.4)
	Phaeopigments :		4.5 (1.5)	8.7 (2.9)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	118.2	60.9	15.4
	145.5	67.9	3.4
	128.4	52.5	7.8
Mean	130.7	60.4	8.9
SD	13.8	7.7	6.1
SD/Mean	0.1	0.1	0.7

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	191.1 (21.5)	1109.6 (124.8)
Respiration:	51.5 (13.8)	1236.0 (331.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 2.0

Quantum Yield (mg O_2 E^{-1}): 61.7

Photosynthetic Efficiency: 0.25

Date: 15/8/80

Station: PC-C

Temperature (°C): 20.5

Daylength (h): 14.3

Height of High Tide (m): 7.5

Radiation (E m^{-2}):

Daily Total: 22

During Ebb Tide (0600-1355
1755-2010): 13

During Incubation (0945-1020): 1

Mean h^{-1} during Incubation: 2.1

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.28	2800	7224
Surface	Nitrogen :			
Sediment	Chlorophyll a :		76.7 (10.6)	197.9 (27.3)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	147.9	63.7	4.6
	183.1	58.0	2.9
	190.3	72.6	2.9
Mean	173.8	64.8	3.5
SD	22.7	7.4	1.0
SD/Mean	0.1	0.1	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	238.6 (30.1)	1477.1 (186.3)
Respiration:	61.3 (8.4)	1471.2 (201.6)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 1.2

Quantum Yield (mg O_2 E^{-1}): 113.6

Photosynthetic Efficiency: 0.47

Date: 4/9/80

Station: PC-A

Temperature (°C): 19.5-24.0

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 37

During Ebb Tide (0625-0645
1045-1920): 29

During Incubation (1100-1215): 6

Mean h^{-1} during Incubation: 4.7

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.60	6000	11,640
	Nitrogen :			
	Chlorophyll *a* :		46.1 (8.6)	89.3 (16.7)
	Phaeopigments :		1.2 (1.1)	2.3 (2.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	180.6	66.0	15.1
	176.9	88.1	11.1
	147.2	76.8	14.3
Mean	168.2	77.0	13.5
SD	18.3	11.1	2.1
SD/Mean	0.1	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	245.2 (29.4)	1512.9 (181.4)
Respiration:	63.5 (13.2)	1524.0 (316.8)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 2.8

Quantum Yield (mg O_2 E^{-1}): 52.2

Photosynthetic Efficiency: 0.21

Date: 4/9/80

Station: PC-A

Temperature (°C): 23.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 37

During Ebb Tide (0625-0645
1045-1920): 29

During Incubation (1530-1645): 4

Mean h^{-1} during Incubation: 3.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.60	6,000	11,640
Surface	Nitrogen :			
Sediment	Chlorophyll a :		46.1 (8.6)	89.3 (16.7)
	Phaeopigments :		1.2 (1.1)	2.3 (2.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	83.3	30.6	1.8
	109.3	31.5	1.7
	140.6	50.5	0
Mean	111.1	37.4	1.2
SD	28.7	11.0	1.0
SD/Mean	0.3	0.3	0.8

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	148.5 (39.7)	1345.8 (359.8)
Respiration:	36.2 (12.0)	868.8 (288.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.7

Quantum Yield (mg O_2 E^{-1}): 46.4

Photosynthetic Efficiency: 0.19

Date: 4/9/80

Station: PC-C

Temperature (°C): 21.0-25.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 37

During Ebb Tide (0625-0645
1045-1920): 27

During Incubation (1255-1330): 3

Mean h^{-1} during Incubation: 5.6

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.28	2,800	7,224
	Nitrogen :			
	Chlorophyll a :		102.2 (25.1)	263.5 (64.7)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	155.0	24.8	5.8
	144.7	25.7	6.9
	134.3	43.2	1.8
Mean	144.7	31.2	4.8
SD	10.4	10.4	2.7
SD/Mean	0.1	0.3	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	175.9 (20.8)	848.1 (100.3)
Respiration:	26.4 (13.1)	633.6 (314.4)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.7

Quantum Yield (mg O_2 E^{-1}): 31.4

Photosynthetic Efficiency: 0.13

Date: 4/9/80

Station: PC-C

Temperature (°C): 21.5-27.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 37

During Ebb Tide (0625-0645 1045-1920): 27

During Incubation (1330-1445): 6

Mean h^{-1} during Incubation: 4.9

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.28	2800	7224
	Nitrogen :			
	Chlorophyll a :		102.2 (25.1)	263.5 (64.7)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	105.7	27.9	5.8
	92.6	27.9	6.9
	166.8	33.9	1.8
Mean	121.7	29.9	4.8
SD	39.6	3.5	2.7
SD/Mean	0.3	0.1	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	151.6 (43.1)	835.4 (237.5)
Respiration:	25.1 (6.2)	602.4 (148.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 0.6

Quantum Yield (mg O_2 E^{-1}): 30.9

Photosynthetic Efficiency: 0.13

Date: 4/9/80

Station: PC-C

Temperature (°C): 21.5-28.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 26

During Ebb Tide (0625-0645
 1045-1920): 19

During Incubation (1300-1405): 4

Mean h^{-1} during Incubation: 3.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		69.3 (17.0)	178.8 (43.9)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	90.8	24.8	5.8
	98.6	25.7	6.9
	69.3	43.2	1.8
	85.9	27.9	
		27.9	
		33.9	
Mean	86.2	30.6	4.8
SD	12.4	7.0	2.7
SD/Mean	0.1	0.2	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	116.8 (19.4)	599.8 (99.6)
Respiration:	25.8 (9.7)	619.2 (232.8)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.6

Quantum Yield (mg O_2 E^{-1}): 31.6

Photosynthetic Efficiency: 0.13

Date: 4/9/80

Station: PC-C

Temperature (°C): 22.0-28.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 7

During Ebb Tide (0625-0645
1045-1920): 5

During Incubation (1310-1415): 1

Mean h^{-1} during Incubation: 1.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	-	-	-
Surface	Nitrogen :			
Sediment	Chlorophyll a :		98.8 (19.2)	254.9 (49.5)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	18.7	24.8	5.8
	25.4	25.7	6.9
	-5.4	43.2	1.8
	14.1	27.9	
		27.9	
		33.9	
Mean	13.2	30.6	4.8
SD	13.2	7.0	2.7
SD/Mean	1.0	0.2	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	43.8 (20.2)	219.0 (101.0)
Respiration:	25.8 (9.7)	619.2 (232.8)

Specific Production(mg O_2 (mg chl a$)^{-1}h^{-1}$) 0.2

Quantum Yield (mg O_2 E^{-1}): 43.8

Photosynthetic Efficiency: 0.18

Date: 4/9/80

Station: PC-C

Temperature (°C): 21.0-27.0

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (14%)

Daily Total: 5

During Ebb Tide (0625-0645 1045-1920): 4

During Incubation (1315-1425): 1

Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	-	-	-
Surface	Nitrogen :			
Sediment	Chlorophyll a :		84.6 (23.2)	218.3 (59.9)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-15.3	24.8	5.8
	-16.1	25.7	6.9
	-18.9	43.2	1.8
	-29.7	27.9	
		27.9	
		33.9	
Mean	-20.0	30.6	4.8
SD	6.6	7.0	2.7
SD/Mean	0.3	0.2	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	10.6 (13.6)	60.6 (77.8)
Respiration:	25.8 (9.7)	619.2 (232.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.1

Quantum Yield (mg O_2 E^{-1}): 15.1

Photosynthetic Efficiency: 0.06

Date: 4/9/80

Station: PC-C

Temperature (°C): 22.0-25.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (1%)

Daily Total: 0.4

During Ebb Tide (0625-0645 1045-1920): 0.3

During Incubation (1320-1435): 0.1

Mean h^{-1} during Incubation: 0.05

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	-	-	-
Surface	Nitrogen :			
Sediment	Chlorophyll a :		75.0 (29.0)	193.5 (74.8)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	-40.3	24.8	5.8
	-45.0	25.7	6.9
	-43.9	43.2	1.8
	-41.3	27.9	1.8
		27.9	
		33.9	
Mean	-42.6	30.6	4.8
SD	2.2	7.0	2.7
SD/Mean	0.1	0.2	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	-12.0 (9.2)	-72.0 (55.2)
Respiration:	25.8 (9.7)	619.2 (232.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 4/9/80

Station: PC-C

Temperature (°C): 25.0 - 27.5

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}):

Daily Total: 37

During Ebb Tide (0625-0645 1045-1920): 27

During Incubation (1330-1450): 7

Mean h^{-1} during Incubation: 4.9

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.28	2800	7224
Surface	Nitrogen :			
Sediment	Chlorophyll a :		102.2 (25.1)	263.5 (64.7)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	97.9	27.9	5.8
	93.9	27.9	6.9
	113.9	33.9	1.8
Mean	101.9	29.9	4.8
SD	10.6	3.5	2.7
SD/Mean	0.1	0.1	0.6

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	131.8 (15.9)	726.2 (87.6)
Respiration:	25.1 (6.2)	602.4 (148.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.5

Quantum Yield (mg O_2 E^{-1}): 26.9

Photosynthetic Efficiency: 0.11

Date: 5/9/80

Station: PC-A

Temperature (°C): 22.0-24.5

Daylength (h): 13.1

Height of High Tide (m): 7.3

Radiation (E m^{-2}):

Daily Total: 34

During Ebb Tide (0635-0750 / 1150-1920): 22

During Incubation (1225-1315): 4

Mean h^{-1} during Incubation: 4.8

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.60	6000	11,640
Surface	Nitrogen :			
Sediment	Chlorophyll a :		46.1 (8.6)	89.3 (16.7)
	Phaeopigments :		1.2 (1.1)	2.3 (2.2)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake		Chemical Oxygen Uptake
	184.0	41.9	40.9	(1.8)*
	195.0	40.0	33.3	(1.7)
	168.6	39.7	35.7	(0)
Mean	182.5	38.6		(4.8)*
SD	13.3	3.3		(2.7)
SD/Mean	0.1	0.08		(0.6)

*From PC-A 4/9/80

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	223.0 (14.5)	1022.1 (66.5)
Respiration:	37.4 (4.0)	897.6 (96.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 2.5

Quantum Yield (mg O_2 E^{-1}): 46.5

Photosynthetic Efficiency: 0.19

Date: 5/9/80

Station: PC-A

Temperature (°C): 21.0-24.0

Daylength (h): 13.1

Height of High Tide (m): 7.3

Radiation (E m^{-2}): plexiglass cover (70%)

Daily Total: 24

During Ebb Tide (0635-0750
1150-1920): 16

During Incubation (1240-1325): 3

Mean h^{-1} during Incubation: 3.4

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	-	-	-
Surface	Nitrogen :			
Sediment	Chlorophyll a :		69.3 (17.0)	134.4 (33.0)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
120.9	41.9	(1.8)*
133.2	40.0	(1.7)
180.1	39.7	(0)
192.5		

*from PC-A 4/9/80

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
Mean	156.7	40.5	(1.2)
SD	34.9	1.2	(1.0)
SD/Mean	0.2	0.03	(0.8)

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	197.2 (36.1)	928.0 (169.9)
Respiration:	39.3 (2.2)	943.2 (52.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 1.5

Quantum Yield (mg O_2 E^{-1}): 58.0

Photosynthetic Efficiency: 0.24

Date: 5/9/80

Station: PC-A

Temperature (°C): 21.5 - 25.0

Daylength (h): 13.1

Height of High Tide (m): 7.3

Radiation (E m^{-2}): plexiglass cover (20%)

Daily Total: 7

During Ebb Tide (0635-0750 1150-1920): 5

During Incubation (1245-1340): 1

Mean h^{-1} during Incubation: 1.0

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	-	-	-
Surface	Nitrogen :			
Sediment	Chlorophyll a :		98.8 (19.2)	191.7 (37.2)
	Phaeopigments :		0	0

mg O_2 $m^{-2}.h^{-1}$

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	89.6	41.9	(1.8)*
	72.4	40.0	(1.7)
	66.7	39.7	(0)
	91.2		
			*from PC-A 4/9/80
Mean	80.0	40.5	(1.2)
SD	12.3	1.2	(1.0)
SD/Mean	0.2	0.03	(0.8)

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	120.5 (13.5)	602.5 (67.5)
Respiration:	39.3 (2.2)	943.2 (52.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.6

Quantum Yield (mg O_2 E^{-1}): 120.5

Photosynthetic Efficiency: 0.49

Date: 5/9/80
Station: PC-A
Temperature (°C): 21.6-24.0
Daylength (h): 13.1
Height of High Tide (m): 7.2
Radiation (E m^{-2}): plexiglass cover (14%)
Daily Total: 5
During Ebb Tide (0635-0750 1150-1920): 3
During Incubation (1250-1345): 1
Mean h^{-1} during Incubation: 0.7

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :			
Surface	Nitrogen :			
Sediment	Chlorophyll a :		84.6 (23.2)	164.1 (45.0)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	87.6	41.9	(1.8)*
	44.2	40.0	(1.7)
	49.6	39.7	(0)
Mean	60.5	40.5	(1.2)
SD	23.7	1.2	(1.0)
SD/Mean	0.4	0.03	(0.8)

*from PC-A 4/9/80

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	101.0 (24.9)	432.9 (106.7)
Respiration:	39.3 (2.2)	943.2 (52.8)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) 0.6
Quantum Yield (mg O_2 E^{-1}): 144.3
Photosynthetic Efficiency: 0.59

Date: 5/9/80

Station: PC-A

Temperature (°C): 21.0-23.0

Daylength (h): 13.1

Height of High Tide (m): 7.2

Radiation (E m^{-2}): plexiglass cover (1%)

Daily Total: 0.3

During Ebb Tide (0635-0750 1150-1920): 0.2

During Incubation (1250-1350): 0.1

Mean h^{-1} during Incubation: 0.1

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	-	-	-
Surface	Nitrogen :			
Sediment	Chlorophyll a :		75.0 (29.0)	145.5 (56.3)
	Phaeopigments :		0	0

mg O_2 m^{-2} h^{-1}

Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
-49.0	41.9	(1.8)*
-57.3	40.0	(1.7)
	39.7	(0)

*from PC-A 4/9/80

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
Mean	-53.2	40.5	(1.2)*
SD	5.9	1.2	(1.0)
SD/Mean	0.1	0.03	(0.8)

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	-12.7 (7.1)	-25.4 (14.2)
Respiration:	37.4 (4.0)	897.6 (96.0)

Specific Production(mg O_2 (mg chl a)$^{-1}h^{-1}$) -

Quantum Yield (mg O_2 E^{-1}): -

Photosynthetic Efficiency: -

Date: 2/10/80

Station: PC-A

Temperature (°C): 17.0-22.0

Daylength (h): 11.7

Height of High Tide (m): 7.1

Radiation (E m^{-2}):

Daily Total: 31

During Ebb Tide (0920-1745): 28

During Incubation (1055-1150): 4

Mean h^{-1} during Incubation: 4.5

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.75	7,500	14,550
Surface	Nitrogen :			
Sediment	Chlorophyll *a* :		147.7 (27.4)	286.6 (53.2)
	Phaeopigments :		6.1 (7.5)	11.9 (14.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	158.2	24.8	4.5
	187.9	29.3	5.7
	163.0	35.9	0
Mean	169.7	30.0	3.4
SD	15.9	5.6	3.0
SD/Mean	0.1	0.2	0.9

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	199.7 (21.5)	1242.6 (133.8)
Respiration:	26.6 (8.6)	638.4 (206.4)

Specific Production(mg O_2 (mg chl *a*$)^{-1}h^{-1}$) 0.7

Quantum Yield (mg O_2 E^{-1}): 44.4

Photosynthetic Efficiency: 0.18

Date: 2/10/80

Station: PC-A

Temperature (°C): 20.0-24.5

Daylength (h): 11.7

Height of High Tide (m): 7.1

Radiation (E m^{-2}):

Daily Total: 31

During Ebb Tide (0920-1745): 28

During Incubation (1220-1300): 3

Mean h^{-1} during Incubation: 5.1

			% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon	:	0.75	7500	14,550
Surface	Nitrogen	:			
Sediment	Chlorophyll *a*	:		147.7 (27.4)	286.6 (53.2)
	Phaeopigments	:		6.1 (7.5)	11.9 (14.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	139.7	34.1	6.3
	187.2	38.5	8.0
	136.8	36.5	8.3
Mean	154.6	36.4	7.5
SD	28.3	2.2	1.1
SD/Mean	0.2	0.1	0.2

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	191.0 (30.5)	1048.6 (167.5)
Respiration:	28.9 (3.3)	693.6 (79.2)

Specific Production(mg O_2 (mg chl *a*)$^{-1}$$h^{-1}$) 0.7

Quantum Yield (mg O_2 E^{-1}): 37.5

Photosynthetic Efficiency: 0.15

Date: 2/10/80

Station: PC-A

Temperature (°C): 20.0-25.0

Daylength (h): 11.7

Height of High Tide (m): 7.1

Radiation (E m^{-2}):

Daily Total: 31

During Ebb Tide (0920-1745): 28

During Incubation (1215-1305):4

Mean h^{-1} during Incubation:5.0

			% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon	:	0.75	7500	14,550
Surface	Nitrogen	:			
Sediment	Chlorophyll a	:		147.7 (27.4)	286.6 (53.2)
	Phaeopigments	:		6.1 (7.5)	11.9 (14.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	147.7	38.9	26.7
	196.7	38.9	26.7
	158.6	43.0	16.7
Mean	167.7	40.3	23.4
SD	25.7	2.4	5.8
SD/Mean	0.2	0.1	0.3

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	208.0 (28.1)	1164.8 (157.4)
Respiration:	16.9 (8.2)	405.6 (196.8)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.7

Quantum Yield (mg O_2 E^{-1}): 41.6

Photosynthetic Efficiency: 0.17

Date: 2/10/80

Station: PC-A

Temperature (°C): 21.0-25.5

Daylength (h): 11.7

Height of High Tide (m): 7.1

Radiation (E m^{-2}):

Daily Total: 31

During Ebb Tide (0920-1745): 28

During Incubation (1330-1405): 3

Mean h^{-1} during Incubation: 5.1

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.75	7500	14,550
Surface	Nitrogen :			
Sediment	Chlorophyll a :		147.7 (27.4)	286.6 (53.2)
	Phaeopigments :		6.1 (7.5)	11.9 (14.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	200.0	51.1	16.6
	203.8	55.6	15.2
	230.8	50.2	13.8
Mean	211.5	52.3	15.2
SD	16.8	2.9	1.4
SD/Mean	0.1	0.1	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	263.8 (19.7)	1448.3 (108.2)
Respiration:	37.1 (4.3)	890.4 (103.2)

Specific Production(mg O_2 (mg chl a)$^{-1}$$h^{-1}$) 0.9

Quantum Yield (mg O_2 E^{-1}): 51.7

Photosynthetic Efficiency: 0.21

Date: 3/10/80
Station: PC-A
Temperature (°C): 15.0-16.5
Daylength (h): 11.7
Height of High Tide (m): 7.1
Radiation (E m^{-2}):
Daily Total: 16
During Ebb Tide (1030-1835): 13
During Incubation (1040-1150): 3
Mean h^{-1} during Incubation: 2.3

		% dry wt.	ug g^{-1}	mg m^{-2}
Surface Sediment	Organic Carbon :	0.75	7500	14,550
	Nitrogen :			
	Chlorophyll *a* :		147.7 (27.4)	286.6 (53.2)
	Phaeopigments :		6.1 (7.5)	11.9 (14.6)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	166.2	22.2	9.6
	177.4	26.3	10.8
	168.7	31.1	10.3
Mean	170.8	26.5	10.2
SD	5.9	4.5	0.6
SD/Mean	0.03	0.2	0.1

	mg O_2 $m^{-2}h^{-1}$ (SD)	mg O_2 $m^{-2}d^{-1}$ (SD)
Gross Oxygen Production:	197.3 (10.4)	1115.2 (58.8)
Respiration:	16.3 (5.1)	391.2 (122.4)

Specific Production(mg O_2 (mg chl *a*)$^{-1}h^{-1}$) 0.7
Quantum Yield (mg O_2 E^{-1}): 85.8
Photosynthetic Efficiency: 0.35

Date: 3/10/80

Station: PC-C

Temperature (°C): 15.5-18.0

Daylength (h): 11.7

Height of High Tide (m): 7.1

Radiation (E m^{-2}):

Daily Total: 16

During Ebb Tide (1030-1835): 11

During Incubation (1220-1325): 4

Mean h^{-1} during Incubation: 3.2

		% dry wt.	ug g^{-1}	mg m^{-2}
	Organic Carbon :	0.28	2800	7224
Surface	Nitrogen :			
Sediment	Chlorophyll a :		64.0 (16.9)	164.8 (43.6)
	Phaeopigments :		1.6 (2.1)	4.2 (5.3)

mg O_2 m^{-2} h^{-1}

	Net Oxygen Production	Total Oxygen Uptake	Chemical Oxygen Uptake
	157.0	30.3	10.2
	151.9	30.1	11.2
	167.7	31.9	10.7
Mean	158.9	30.8	10.7
SD	8.1	1.0	0.5
SD/Mean	0.1	0.03	0.1

	mg O_2 m^{-2}h^{-1} (SD)	mg O_2 m^{-2}d^{-1} (SD)
Gross Oxygen Production:	189.7 (9.1)	652.1 (31.3)
Respiration:	20.1 (1.5)	482.4 (36.0)

Specific Production(mg O_2 (mg chl a)$^{-1}$h^{-1}) 1.2

Quantum Yield (mg O_2 E^{-1}): 59.3

Photosynthetic Efficiency: 0.24

POOR

QUALITY

ORIGINAL